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A BRIEF REVIEW OF THE GROWTH OF MC'DOWELL'S OPERATION DONE AT DANVILLE, KENTUCKY, IN 1809; ITS PRESENT STATUS.

Delivered April 29, 1885, in General Session of the American Medical Association.

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In the bleak cold of a December day, in 1809, a woman riding on horseback arrived in Danville, Kentucky. She had taken farewell, perhaps forever, of relatives and friends, and had just completed a journey of sixty miles, that she might be near a surgeon who had promised to open her abdomen, and attempt to remove the large ovarian cyst it contained. She was to be the subject of an experiment—an experiment at the hands of a surgeon living on the borders of civilization—an experiment which would involve her life, and to which she must submit without the blessing of chloroform or ether. This woman possessed of marvellous courage was Mrs. Crawford, McDowell's first patient in ovariotomy, and the first patient upon whom the operation was ever deliberately undertaken. She recovered and lived to the advanced age of seventy-nine years, a period of thirty years beyond the operation.

The conditions surrounding and forming part of this operation are worthy of more than a passing notice. At the present time, they are declared by the ablest operators to be of more than accidental importance.

In the light of all recent advances concerning the environs of an ovariotomy patient, I ask you to listen thoughtfully, and inquire of yourselves: Have modern operators had better environment than McDowell did? Is their quarantine better than his was? Whether accident, or necessity, or the simplicity of border life provided these conditions so favorable to recovery, your orator will not inquire, but hopes to show that McDowell did operate under conditions as favorable as does Dr. Keith or Mr. Lawson Tait.

1st. The patient was refused operation in her own home.

2d. She was operated upon in Dr. McDowell's own house.

3d. History mentions but one assistant present at the operation.

4th. The patient had never been tapped.

5th. We may safely infer that the room in which the operation was performed contained, at this early date in Kentucky, no superabundance of furniture or upholstery.

6th. That the room was ventilated by an open fireplace is more than probable.

7th. The atmosphere was that of a healthy border town.

8th. No sponges were introduced into the abdomen.

9th. He ligated the pedicle and dropped it in.

This operation will stand the criticism of the most exacting specialist of the year 1885, save in two particulars, viz.: the ligature was not carbolized or scalded, the ends of it were left hanging out of the lower angle of the wound, and merely turning the woman on her side to permit all fluids to escape from the cavity of the abdomen was scarcely enough in that direction.

The incision was made to the left of the rectus muscle, but in his next case McDowell made it in the linea alba, between the umbilicus and pubis.

Pause a moment! Think; at the end of almost three-quarters of a century, the operation stands almost where McDowell left it, with one solitary exception, viz.: the ends of the ligature surrounding the pedicle are cut short.

Restless human nature, not satisfied, sought other means of treating the pedicle, a review of which is fraught with good instruction. For eleven years the operation remained in the hands of McDowell, and he adhered to ligation of the pedicle, leaving the ends of his ligature hanging out at the lower angle of the wound. In 1820, Chrysmar, of Würtemburg, tied the pedicle in two portions, leaving the ends of the ligature hanging out at the lower angle of the wound. In 1821, Nathan Smith, of New England, tied the pedicle with "strips cut from a kid glove"; he cut the ligature off close to the knots, and dropped the pedicle into the abdominal cavity.

Neither Chrysmar nor Nathan Smith knew anything of McDowell's operations. Were the teachings of Hunter and John Bell working upon other minds, as well as upon the mind of Dr. McDowell? The last named sent to Mr. John Bell, of Edinburgh, an account of his cases. Mr. Bell being then in Italy, his colleague, Mr. Lizars, received the report. It is probable that this record was received in 1818. For six years

Mr. Lizars kept it to himself. He attempted ovariotomy four times, and succeeded in one case, the patient surviving the operation seventy days. In one case he opened the abdomen by an incision reaching almost from the ensiform to the pubis, and thrust his hand into an empty belly. He requested every one of his students to put his hand into the abdomen, and finally exclaimed, referring to an army officer present, "Where is the military gentleman?" And had him make the same manual exploration. Mr. Lizars then closed the wound, *and it healed by first intention.*

Owing to the fact that Mr. Lizar's results were bad, twenty years elapsed before ovariotomy was again attempted in Scotland. In 1846, Dr. Handyside performed it. Another halt of sixteen years occurred, bringing us up to 1862, at which date but one success had been attained in Scotland. In that year Dr. Thomas Keith did his first operation.

Let us now cease the pursuit of Dr. McDowell's operation, as it was reported to Mr. John Bell, which report the latter did not live to see.

Up to the year 1843, I find the records of only eighteen completed ovariotomies in America. In this year, Dr. Alexander Dunlap, of Springfield, Ohio, and Dr. John L. Atlee, of Lancaster, Pa., did their first cases, the latter removing both ovaries. Eleven years later (1855), Dr. Kimball, of Lowell, began operating. These three are now the only living pioneers of the army. May they live long to enjoy the distinction!

The operations in the United States were already numerous, and the stability of the operation secured. This was before Sir Spencer Wells did his first ovariotomy.

It is estimated by Peaslee that up to the last quarter of 1863, over three hundred ovariotomies had been done in this country. At this date Dr. Keith was only beginning in Scotland; the operation was performed for the first time in Russia, and was only a year old in Italy. Twelve years after the death of Dr. McDowell, in 1842, Dr. Charles Clay, of Birmingham, England, did the first operation in that country; prior to this time, Jeaffreson, Walne, King, and West had each removed, by abdominal section, parovarian cysts. In 1851, Baker Brown began operating in St. Mary's Hospital, London; his results were not good, and the intense opposition of his colleagues drove him from the hospital; he then founded the "London Surgical Home," where his results compared favorably with those of any other surgeon of his time. *It was mainly due to his action that the practice of performing ovariotomies in large hospitals, where isolation is impossible, ceased.*

From Baker Brown, Nélaton learned the operation by personal observation, and, returning to France, related in a public lecture, how he had seen Brown do five cases, three of them in a single day; and thus through the influence of Brown on Nélaton, the opposition to ovariotomy in France was largely diminished. In 1854, Baker Brown taught Sir Spencer Wells the operation, and in 1857, Sir Spencer did his first operation. In 1864, according to Sir Spencer Wells, the operation was completely established in London, and, we may add with pride, in every country in the civilized world.

But while the surgical world recognized the operation, there was a diversity of opinion with regard to the treatment of the pedicle. From the date of Dr. McDowell's first operation up to 1821, when Dr. Nathan Smith operated, the ends of the ligature were brought out at the lower angle of the wound; Dr. Smith was the first to cut the ends off. For sixteen years afterward no other method was offered. In 1837, Stilling, of Cassel, in the province of Hesse Nassau, Germany, used the cautery, and suggested stitching the pedicle to the wound.

Nine years barren of new suggestions again elapsed, when, in 1846, Dr. Handyside, of Edinburgh, Scotland, carried the ligatures through the cul-de-sac of Douglas into the vagina. In 1848, Stilling treated the pedicle outside of the peritoneal cavity. Two years later, in 1850, this method was inaugurated in London by Mr. E. W. Duffin. The introduction of the extra-peritoneal method of treating the pedicle by Stilling, in 1848, began a long and serious conflict which has happily died out with the method. Maisonneuve, of Paris, in 1849, had twisted the entire pedicle in one case, and Martin, of Jena, had stitched the pedicle to the wound. About this time Langenbeck stitched the pedicle to the wound, and covered it with skin from the margin of the incision.

Eight years later, in 1850, Dr. John L. Atlee, of Lancaster, Pa., introduced the écraseur to divide the pedicle. He was imitated by a number of prominent operators, notably by his brother, the late Washington L. Atlee; Sir Spencer Wells, Dr. Keith, Professor Pope, of St. Louis, U. S., and Professor Billroth, of Vienna. This year proved unfortunate for the operation, for during it Mr. Jonathan Hutchinson invented the clamp which perpetuated the extra-peritoneal mode of treating the pedicle. In 1860, Sir James Y. Simpson secured the pedicle within the cavity of the abdomen by acupressure needles passed through the abdominal wall. About 1865, Koeberle, of Strasburg, invented his serre-nœud, or wire constrictor, with which he grooved the pedicle prior to applying the ligature.

In 1864, Mr. I. Baker Brown, of London, reverting to Stilling, of Cassel, established the use of the cautery, *a method rejected in London, taken up by Dr. Keith, and now credited through him with the best statistics yet attained by any operator.* In 1868, Masslovsky, a Russian, amputated the pedicle by double flaps, one on each side, and stitched the flaps together. In 1869, Dr. McLeod, of Glasgow, Scotland, by means of two pairs of strong forceps, twisted the pedicle entirely off. During this year, Dr. Peaslee invented a scabbard and knife by means of which the pedicle was secured, the ligature traversing the scab-

bard. After forty-eight hours the ligature was cut by introducing the knife into the scabbard, when both ligature and scabbard were withdrawn. In 1870, Dr. Thomas Addis Emmett reported eighteen cases in which he had secured the pedicle by means of silver wire.

Up to the present year (1885), every conceivable thing has been done with the pedicle. It has been tied entire; tied in sections; been twisted off; burned off; crushed off; cut square off; cut off in flaps; left inside; left outside, and been made to slough off. The extra-peritoneal method of treating the pedicle is gone. The question is now resolved into the merits of the ligature cut short, the Dr. Nathan Smith method, or the clamp cautery, as introduced by Mr. I. Baker Brown, of London, in 1864. If the clamp as devised by Mr. Jonathan Hutchinson was a bad instrument, and according to Mr. Tait reduced the statistics that Sir Spencer Wells should have attained, it must have similarly affected the results of those who have employed it in the United States. Recently ligation and the cautery have given almost equal results.

The operation of Dr. McDowell, in so far as it relates to the treatment of the pedicle, is, therefore, triumphantly where he placed it, despite the ingenuity of the surgical world, having undergone but a single alteration, namely, Dr. Nathan Smith's improvement of cutting the ligature short. I have not been able to learn anything as to the extent to which sponges were used by the pioneer operators. When Dr. Keith was about to do his first operation, he had the water to be used boiled the night before, and he made everything scrupulously clean; during the operation he was surrounded by old practitioners.

After removal of the cyst, he thrust a big sponge into the abdomen, and brought it out full of fluid. As he was about to repeat this, one of the doctors seized his arm and exclaimed, "For God's sake don't do that again." While he hesitated, the others argued that any fluid left in the body would be a nice protection to the intestines. He closed the wound. Subsequently the patient did badly. He at once opened the wound and let out a pint of dirty fluid, and the patient recovered. From that time he advocated careful sponging after the operation, *and he was the first to insert a flat sponge under the wound while the stitches were being placed.* Koeberle, who also began to operate in 1862, *introduced the compression forceps and drainage, first by short and later by long glass tubes.*

I here show you the Baker Brown cautery clamp, used by Dr. Keith, the compression forceps of Koeberle, *also the modification by Sir Spencer Wells*, and the drainage tubes so much in use by operators in Great Britain.

The technique of McDowell's operation is, probably complete, *and its future will depend upon the subject, the place of application, and the care taken to protect the patient from extraneous sources of danger.* It may be compared to a mighty oak, each decade of years having added to its greatness until its far-reaching branches furnish shelter for the thousands of men and women who require abdominal section. Its ramifications are hysterectomy for fibroids, hepatotomy, cholecystotomy, normal ovariotomy, the Hegar-Tait operation for the removal of both ovaries and tubes, nephrectomy, exploratory incisions, gastrotomy, and enterotomy. It still continues to grow, and the task of pointing out the leaves that have been added to its foliage during the last year requires our efforts ere they fall about the roots and contribute themselves to the growth of the parent tree.

Valuable lectures and papers have been given by Dr. Keith, Mr. Lawson Tait, Mr. Savage, Sir Spencer Wells, and Mr. Bryant, all in the *British Medical Journal.*

The results of valuable experiments on lower animals have been published by Prof. C. T. Parkes, of Chicago. Many successful cases of the Hegar-Tait operation, done by our countrymen and the surgeons of Great Britain, have been published in various journals.

Mr. Thornton has been successful in gastrotomy for the removal of a large foreign body, and has had seventeen successful cases of nephritic surgery, ten of these being nephrectomy by abdominal section. Drs. Keith and Bantock continue to do supra-vaginal hysterectomy with unparalleled success, and it is premised that if their success continues, it will elevate their method of operating beyond the reach of controversy. They both adhere to the extra-peritoneal treatment of the stump, while the continentals practise the intra-peritoneal method.

The recent visit of Mr. Lawson Tait to the United States has given a great impetus to the Hegar-Tait operation for the removal of diseased tubes, and for the removal of ovaries and tubes for the cure of fibroids of the uterus.

For the purpose of encouraging the conservative abdominal surgeons, *those who look carefully to the environment of their patients*, I point with great pleasure to the fine statistics of Dr. John Homans, of Boston, and of Dr. Robert Battey, of Georgia, whose early initiation of normal ovariotomy was suggestive eventually of the Hegar-Tait operation which included the tubes.

Ovariotomy and its offshoots comprise almost all, if not the entire field, of abdominal surgery. The establishment of the parent operation brought out the others; if not for the first time, it revived and established them after they had been practically abandoned. "The seed was sown by Bell and Hunter, carried by McDowell and planted in Kentucky"; its first growth was slow, but gathering strength from the passing years, its top has risen high, and its great branches cover a wide space, where unfortunate men and women of every land and clime gather to find relief from suffering and to acquire new leases of life.

The carbolic spray is still a matter of dispute. In Great Britain, Mr. Thornton adheres to it as

of old; Drs. Keith and Bantock and Mr. Tait will have none of it. The latter said to me, "I sold out all my right, title, and interest in Listerism, with my tea-kettle to Battey."

So far as I know, the best statistics yet obtained in ovariotomy in the United States belong to Dr. Battey, of Georgia, and Dr. John Homans, of Boston, Mass., both of whom operate under the carbolic spray, and in apartments kept especially for abdominal operations. I make special mention of the fact that these gentlemen use the carbolic spray, for the reason that Dr. Emmett says in his last edition, page 715, "I do not know of any prominent operator in this country who now uses the spray"—evidently an oversight.

I do not use the spray myself, but look upon the entire Lister system, less the spray, as firmly grounded in the surgical mind. Cleanliness and Listerism can never be separated, for "Listerism is the gospel of cleanliness"; without the latter you cannot have the former.

The year has wrapped up in its eternal folds one whose name is synonymous with the surgery of women; one whose reputation is immortal, who in America at least, stood next to McDowell; beloved by his own countrymen, and honored by the entire surgical world. No eulogy of mine can increase his fame. I speak of *the great, the good, the pure, the noble, the generous* Marion Sims. Like McDowell, he possessed a genius for origination, and will share with him the admiration and plaudits of future generations.

ORIGINAL ARTICLES.

CHOLERA.

Read in the Section of Practical Medicine, Materia Medica and Physiology, at the Annual Meeting of the American Medical Association, 1885.

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The fact that this disease so prominently commands the public attention everywhere, renders its discussion at the present hour peculiarly appropriate. The probability, according to precedent, that it may again traverse the western continent invests it with a special interest, and by every motive that may appeal to us we are called upon as members of the medical profession to counsel the most efficient means for preventing its progress and controlling its severity.

In the discussion of this subject, especially upon controverted points, I shall not presume to speak as an authority, my aim being, rather, so to present the essential points as to elicit free and full discussion on the part of the able representatives of the profession here convened.

The topics germane to this discussion, it seems to me, are mainly these: *Firstly.* As to the origin of cholera; *Secondly.* Its pathology; *Thirdly.* Its manner of propagation; *Fourthly.* The means for its control; *Fifthly.* Its treatment.

To these several subjects, with the brevity which my paper compels, let me invite your kind attention. Over the origin of cholera and its dissemination—after a hundred years of rigid investigation, in which time tomes of literature upon the subject have appeared, there still hangs a mystery which invests it with fearful interest. And since, in the footsteps of the epidemic invasions, such appalling fatality has followed, compared with which the wastes of wars are insignificant, it were strange indeed if the laity did not turn with deepest concern to the medical profession, imploring its utmost effort to stay the progress of the destroyer, or, failing in this, to lessen its fatality.

To the proper presentation of the subject a brief historical summary seems essential:

Evidently cholera is not a disease of recent origin. It has been prevalent, doubtless, upon the banks of the Ganges, for untold ages. Nor there alone. It was accurately described by Hippocrates. It is a matter of mention by Aretius of Cappadocia in his early writings. As early as 1669 Sydenham speaks of its prevalence in London. Huxham also refers to it there in 1741. According to French authorities, it was prevalent in Paris in 1773, and again in 1780. Lebeque describes cholera as breaking out with violence in Hindostan in 1762, and states that 800 Europeans and 30,000 natives perished in a brief period of time. Dr. Paisley, of the East India service, writing from Madras in 1774, states that cholera was then not only endemic in India, but that with peculiar meteorological conditions, to which I shall have occasion to refer, it was epidemic among the natives.

M. Sonnerat, travelling in India between the years 1774 and 1781, states that cholera was not only prevalent upon the Coromandel coast, but that at one time it assumed not only a malignant, but an epidemic form. Time will permit me but in briefest manner to refer to its appearance among the British troops in Bengal, 1781 and 1782, and in the same year in the squadron of Sir Edward Hughes at Madras.

April, 1783, is memorable for its outbreak in Hurdwar, upon the Ganges, where, in eight days, 20,000 pilgrims perished. From 1787 to 1790 inclusive, we have the record of its prevalence in Arcot and Velore, and among the Bengal troops at Seringapatam. Bell, who is quoted as an authority upon the subject, is of the opinion that the pestilences which, from time to time, prevailed in India, and which were attended by an almost incredible fatality, were but successive outbreaks of cholera, of which but meagre reports were preserved by native historians.

Thus, while it is constantly asserted that epidemic cholera originated at Jessora, a large and populous town sixty-two miles north of Calcutta, in August, 1817, and from thence swept over western Europe as the first great epidemic, yet, from the records referred to and from others equally reliable, it is evident that cholera had

been prevalent in India from a period antedating historic records, and doubtless successive plagues, of which we have only imperfect account, were but successive outbreaks of this disease—sometimes counting their victims by millions. The often repeated statement that the first great epidemic, as it is called, originated at Jessora, needs a moment's consideration. While it is asserted that it originated in Jessora August 28, 1817, it is certain that it was prevailing, even before this date, in various and distant parts of Bengal. In July it had appeared in Sunergong. In July it it was even prevailing as an epidemic in the distant provinces of Behar and Dacca. On the 11th of July it appeared in the city of Patana, three hundred miles northwest of Calcutta, spreading from there during the month of August to all the adjacent villages. On the 23d of August, five days before the invasion of Jessora, it was raging upon the further shores of the Bay of Bengal, and only a week later upon the high and distant tracts of Monghyr. I have trespassed a moment upon your time to show that the assertion of its origin at Jessora needs correction.

In the briefest manner possible, let me outline the march of this first epidemic, as it is termed, in its progress westward. After its fearful ravages in 1817, it seemed, during January, 1818, to be nearly extinct; but in February of that year, it again developed with great violence, spreading eastward over Aracan. In 1819 it devastated Maritius and in 1820 had reached the Isle of Bourbon. Of its progress south along the Indian Ocean, I have not time to speak. In its western course it had reached Bombay in 1818. During the two succeeding years it entered Muscat. Ascending the Persian Gulf, it visited the seaport towns on either side, and from thence spread over Persia and Asiatic Turkey. Its ravages in Persia were arrested by the cold winter following 1821. In 1822 and 1823 it skirted the Caspian Sea to the mouth of the Volga, where its progress was again arrested by the rigorous winter of 1823. All Europe trembled with apprehension, but at this point for six years its western march was stayed. Here and there it appeared in Persia during these years, as it had done in India, but up to 1829 it had not crossed the Bosphorus. But in 1829, it began to appear in the eastern provinces of Russia. In 1831 it had reached the Baltic, and on June 15th of that year it first appeared at St. Petersburg. In August it had reached Berlin and in September it entered Vienna. On the 11th of September it was at Hamburg, and in October, at Sunderland on the east shore, it first made its appearance in England.

In June, 1832, it crossed the Atlantic, appearing first, as is commonly asserted, in Quebec, and was soon prevalent along the line of travel. Such had been the tide of immigration that more than thirty thousand persons had landed in the Canadian provinces during the preceding three months, many impoverished and badly cared for, and among these cholera assumed extreme malignity. The disease spread rapidly along the upper lakes. It appeared with great fatality among the United States troops in command of General Scott in transit to the seat of the Indian war. With them it reached Chicago, and westward over the prairies it seemed attendant upon the troops and all who had communication with them, until it reached Fort Armstrong, at Rock Island. Thence descending the Mississippi, it visited all the river towns until it reached the Gulf. Crossing the St. Lawrence in the meantime it overran the state of New York, and during the summer of 1832, nearly every state in the Union suffered from its invasion.

Of the epidemics that reached this country in 1848, in 1854, in 1865, and in 1873 it may be said that their manner and methods of advance were so markedly similar that the general history of one invasion would outline them all. From a careful survey of these histories it seems safe to make the following deductions:

I. In America, cholera is not an endemic disease.

II. That it is only communicated from foreign countries, where and when it is there epidemic.

III. That it is not transported by ocean or atmospheric currents.

IV. That it may be in every instance, traced to infected ships arriving from infected countries, and bearing passengers developing the disease, or materials that had been previously in contact with cholera patients.

V. That it has never spread inland from infected ports, except along the lines of travel, and in such manner as that it might be communicated by travelers—or the transfer of contaminated materials. It is not known, I think, to have appeared in any locality where absolute isolation had been secured. If this be true, by so far as the avenues of travel and traffic may be closed, by so far we have it in our power to arrest the progress of the disease.

No questions command the attention of the medical profession in both hemispheres at the present time as do those of the causation of cholera. In the solution of these questions, the comma-bacillus is at this moment the pivotal point of controversy.

Koch and his followers are confident that this specific bacillus is the producing cause. He affirms that in the 100 cases of autopsy from the examinations of which he derives his conclusions, in every case he found these bacilli present in the intestines and that he did not find them in any other organs than those diseased; that they were not present in discharges from healthy persons, nor from persons affected by other diseases than cholera.

He reasons also, from the fact that by the inoculation of healthy organisms with specific bacilli a specific disease may be produced, as in the instance of the baccillus tuberculosis, that

therefore it is rational to conclude that cholera is developed in like manner.

In furtherance of his views he affirms that in the beginnings of the disease the comma bacilli are few in number; that as it advances the colorless and odorless evacuations contain enormous quantities of comma bacilli, while other microgerms are notably diminished, and that as the excreta become more feculent they diminish in numbers, and that finally, with returning health they disappear. On the other hand, the French commission, of which M. Straus was chairman, at the conclusion of its investigations in Egypt reported that while finding these microgerms in the cases examined, in some of them so few were present as to lead the commission to the conclusion that cholera was not attributable to the presence of these microbes even in cases in which they were most abundant.

Again, Dr. T. Lewis, who has been for many years a resident of Calcutta, and who has made the evacuations of cholera patients for years an especial study, asserts that the so-called comma bacillus is identical in form with one which may be found in the mouth of a healthy person. This affirmation the followers of Koch are inclined to deny, The crucial test of inoculation with comma bacilli, eliminated from all possible associate infection, and the production of cholera by such inoculation must be fully demonstrated before the seemingly too confident assertions of Koch can be accepted as verities. Far be it from me to speak disparagingly of these investigations. As never before the advocates and the opponents of the germ theory of disease are marshalled in conflict. The smoke of the battle is yet too dense for us to determine where final victory shall rest, but one thing is certain. From such prolonged and skilful investigations by such able observers we shall date a new era in the advancement of medical science.

Whether or not we reach the conclusion that the comma bacillus is the producing cause of cholera, it is evident that there are conditions which favor the development of the disease, without which its propagation seems impossible. The essentials to such development seem to be *first*, warmth; *second*, atmospheric moisture; and *third*, the presence of organic substances in process of decomposition.

So far as I know the disease has rapidly diminished and even disappeared from localities where the temperature fell, and remained below 32° F. It has been the common observation that a warm and moist atmosphere was present when it attained its greatest severity, and that according to the excess of earth and water pollution in that proportion and in such localities it has attained extreme malignity.

The reports of surgeons in the India service are explicit upon this point. From the Bengal Reports I quote from a review the following extract: A disorder possessing the principal characters of cholera appears to have prevailed more or less endemically during the hot and rainy seasons of every successive year, in the lower provinces of Hindoostan, but chiefly limited in attacks to those whose constitutions had been debilitated by poor, ungenerous diet and by hard labor in the sun, and who were badly clothed, and frequently exposed in low and foul situations to the cold damp air of the night. It rarely occurs during the dry months, Europeans are scarcely ever affected by it, and the better classes of natives are rarely subject to its influence. A high temperature, a moist atmosphere, and accumulated filth seem essential to its development, but once, under these favoring influences, it assumes an epidemic form, such is its malignancy that it is thenceforth no respecter of persons, carrying devastation wherever it may chance to go. As in a conflagration, its beginnings are the matter of chief concern, and the removal of favoring agents for its production before the deadly work commences. We should be concerned for the prevention of cholera, even more than for its cure.

It seems presumptuous, in passing to this next topic, that I should discuss the pathology of cholera in the presence of this learned assemblage, since you yourselves are conversant with all the facts so far as they are yet revealed. And yet, the consideration of other points renders it necessary that we briefly refer to the more manifest abnormalities attendant upon this disease.

We find the intestinal canal the seat of special lesion, analogous in appearance to that of intestinal catarrh. Where death has occurred in the cyanotic stage the mucous membrane is thickened and œdematous, the intestines distended with fluid, turbid by reason of the countless myriads of micro-organisms developed in the decomposing fluids. Necrosis of tissue is general, and the villi of the intestines are largely divested of epithelium.

The mucous, submucous, and connective tissues are impacted with lymph cells. The blood having largely lost its serum, fails of free circulation, and capillary stasis everywhere obtains. Its corpuscles become viscous and adherent, as we would anticipate. One prominent result is the failure of the proper function of the kidneys. Urea is unduly retained. Its toxic effects upon the nervous centres are manifest. Its conversion into ammonia renders the blood strongly alkaline. In cases not immediately fatal we may have resultant pathological conditions in great variety, involving mucous and serous membranes and glandular organs as well, in acute inflammations with their varied sequences. From the inspection of those who died in the algid cyanotic stage, it may be difficult to discover other lesions than those of the intestines; but in protracted cases it is difficult to say what organs may not be affected, or to what extent they may be involved.

With reference to the manner in which cholera is communicated, very great differences of opinion have prevailed. Such have been the immunities of physicians and attendants upon the sick,

that many whose opinions we are bound to respect, even to-day, stoutly affirm that cholera is not contagious and that cordons are useless.

But the preponderance of conclusion is otherwise, and everywhere the conviction more and more obtains that isolation is *the* safeguard from cholera invasion.

The view now nearly universally accepted is that cholera is developed by a specific poison—whether or not a living organism—and that this poison is contained in the alvine evacuations of those suffering from the disease, and that if these are properly disinfected, we may care for our cholera patients with perfect impunity.

By far the greater number of observers incline to the view that the germ theory is true, and that the destruction of these germs as they leave the body would stamp out cholera.

It seems to be conclusively demonstrated that after a period of time varying from a few hours to as many days if cholera dejections are exposed to warmth and moisture they so contaminate the air for limited distances that those who are susceptible and come within the infected area are smitten with the disease.

Soil and water may be so polluted with these discharges as to become fruitful sources of contagion.

The infection may be imprisoned for a long time and be carried long distances in clothing which has been thus soiled and dried, to be again liberated by the washerwoman, to develop the disease afresh. It is a fact long since recognized that those who dwell in the midst of filth, whose foods and drinks are of impure and unwholesome qualities, those most exposed to immediate contact with sinks, closets, drains and cesspools, to water courses and surface exhalations, where cholera discharges have been deposited, are first and most to suffer in the outbreak of an epidemic. And were these poverty-stricken and filthy people controlled to better sanitary conditions, by so much the facility for cholera dissemination would be diminished.

If it be true, as I strongly incline to believe, that the sources of cholera are limited to the intestinal evacuations of cholera patients, and that it is not otherwise communicated, then it becomes a matter of utmost importance as to how these shall be disposed of. If, by proper disinfection they may be sterilized and rendered absolutely innoxious, then indeed we have in hand the key to the question, How shall cholera be controlled?

If we have definitely settled the location of the death-producing cause, and if we are possessed of germicidal or viricidal agents which can destroy the contagious element, then but one farther question confronts us, and that is, How shall we practically apply the remedies in our hands, as to control the disease with germicidal treatment?

Here, gentlemen, we are brought face to face with a question of no ordinary magnitude. It is none other than this: How shall we in times of epidemics bring under proper sanitary surveillance the countless thousands of people who are constantly traversing every sea and every land as fast as steeds and steam can bear them, and how shall we adequately supervise the commerce of the two hemispheres.

This is not the problem of the hour, but of the age. Neither legislation nor executive action was ever so taxed as they *will be* in the final settlement of this question. Whether we endeavor to estimate the value of human lives or the unnumbered millions of money involved in a widespread epidemic of cholera, we are prompted by motives which have scarcely a parallel, to the utmost of our effort, to *educate* our *rulers* and the *masses* of the *people* to the exigencies of the hour.

It may be that the devastation of our fair land by this destroyer must again *be*, before the nation will adequately meet the issue; *but* so surely as cholera *shall* from time to time visit our shores, *as it will*, so surely will the American people sooner or later devise the means that shall prove effectual in the control of cholera. In the accomplishment of this result nothing less than wise, efficient international sanitary legislation will meet the exigency.

On the part of our government our prime concern is with our marine interests. A sanitary cordon of divine construction—a sea wall 3,000 miles in breadth, is for all time interposed between us and that pestilent *hotbed* on the banks of the Ganges.

The surveillance of our ships means the surveillance of our shores, the timely control of travellers and of infected merchandise means for all our broad land immunity from the disease. *This* is the ideal toward which our utmost effort should be directed.

And when international effort fails, and the pestilence is upon us, then it seems to me that nothing short of national sanitary control will avail to arrest its progress. With national legislation, state and inter-state laws should blend and harmonize. The needs discovered and fully appreciated, the counsels of eminent jurists should prevail. In the presence of this question which appeals, as almost no other can, to universal philanthropy, all sectional and selfish interests should sink into insignificance. There should be timely, efficient, and harmonious action among the entire sisterhood of states. Each state should dominate in all its municipalities and in each municipality its local authorities should exercise a rigid surveillance of all its citizens. House-to-house inspection should be made and often repeated; ample power should be appropriately vested for the abatement of all nuisances and the *control* of all who ignorantly, stupidly, or maliciously transgress the laws of health.

This ideal may not and probably will not be so fully realized as to prevent the advent of cholera in the near future. If not, what yet remains? I say unhesitatingly, go to the city of

New York, and *learn* and *remember* and *practise* the teachings of its Metropolitan Board of Health.

Let there be a like sanitary inspection by a corps of trained men instant and alert to attend upon each and every reported suspect, with as efficient organization for the practical application of disinfectants, with the entire force subject to one central command as *instant* and *implicit* in obedience as though under military control and martial law. After witnessing the results which obtained in New York in 1866, I think no man would question either the wisdom or the efficiency of their action. The same general means which can accomplish so much for our cities should be wisely and efficiently applied along all lines of travel, whether coastwise, by river, or by rail. A like absolute oversight should secure the cleansing and disinfection of all our cities and their suburbs until the hamlets in the open country even are thoroughly renovated.

Another important duty of the hour, it seems to me, is this: To properly acquaint the masses of the people with the relative values and efficiency of disinfectants, and to give simple and sufficient directions as to the manner and extent of using them.

If the germicidal theory be true, doubtless signal failure would come from a too implicit trust in the use of carbolic acid, the odor of which so satisfies one as to the fact of its veritable presence and yet so signally fails to meet the requirements of a germicide. If the acids and chlorine and sulphur are potent agents for disinfection, as they are, no time should be lost in acquainting all our communities with the minute details of obtaining, preparing, and using them for the purposes of successful disinfection.

But when preventive means have failed and we come to meet the disease face to face, at the bedside of the patient, what yet remains for us *to do?* If there be knowledge, if there be skill, if there be at command remedial agents that can *avail*, surely there shall be no withholding at such a time as *this*. To this end the experience of the medical profession is willingly, nay, gladly laid upon the altar for the good of a common humanity.

Having a vivid remembrance of the consternation which possessed our people in 1832, and a somewhat extended professional acquaintance with cholera, as it appeared in this country in 1849, in 1854, in 1866, and in 1873, may I be pardoned, as I conclude this paper, if I presume to offer a few suggestions as to the treatment of this disease—suggestions for which I do not claim originality, but which have been helpful to me in many emergencies.

Let me say at the *outset* that the inspirations of *hope* and of *confidence* are prime necessities. They lift the man to life, while fear is swift to bring destruction. The beginnings of this disease must be quickly under our control if we would hope to save our patients. The commencement of intestinal disturbance should be a matter of immediate concern, before choleraic discharges are developed. If it be possible to rightly diagnose the case our remedies will then be found of most avail.

A hot bath for fifteen minutes, the quick envelopment of the entire body in dry, hot flannel immediately after bath, the stimulation of the cutaneous surfaces with dry mustard and with friction under cover; artificial heat so applied as to secure, if possible, free perspiration; these all conspire to divert the circulation and save from intestinal congestion. From this time on the patient should be compelled absolutely to the recumbent position.

The drinks should be bland and mucilaginous. Cold water, notwithstanding the immoderate thirst, should be used but sparingly. It will be found that hot drinks will often serve the purpose best. Nothing now serves better to allay vomiting and quench the thirst than moderate draughts of hot water. All food should be in liquid form and limited in amount. No solid food, under any circumstances, should enter the alimentary canal. The crisis will be passed in a few hours, and during that time there should be a suspension of digestion.

Acidulated drinks, not alkaline, should be administered. They are usually grateful to the patient and germicidal as well. Of all remedies to be administered internally I hesitate not to say that opium heads the list. It brings, as nothing else can do, that quietude both of mind and body so essential to success. It lays its hand effectively upon the digestive organs, lessens their sensibility and insures their rest.

Skilfully, cautiously, but efficiently administered, opium is the sheet anchor in which more than in all else we rest our hope. In the hour of extreme exhaustion internal stimulation may be wisely associated with opium. Of the stimulants camphor is the one most valuable. Capsicum is sometimes of service; these rather than alkaline carbonates, or alcohol. The introducture of salines and the hypodermic injection of water to replace the losses are but fanciful delusions, I think, and they are highly impracticable.

Quietude of mind and body, the maintenance and equalization of temperature, the diffuse circulation of the blood, and absolute rest for the bowels—these are the essential requirements, and to these all other medication should be secondary aud subsidiary. The crisis passed, the convalescent is to be treated as in each instance the exigency may require. With this brief reference to the origin, the pathology, the propagation, the control, and treatment of cholera, I desire to give place for the discussion which it is the purpose of this paper to elicit.

DR. AUSTIN FLINT, SR., said that in opening the discussion on epidemic cholera he would

limit himself to an enumeration of the several aspects under which it is important that the subject be considered, and to a very brief expression of the views which seemed to him most consistent with our present knowledge. The several important aspects which the subject offers relate, in the first place, to the etiology and pathology of the disease; and in the second place, to prevention and treatment.

Is epidemic cholera an infectious disease? This question at once suggests itself. In other words, adopting the sense of the term infectious, as this term is now generally used, does the disease involve in its causation a specific agent capable, under favorable conditions, either within or without the body, of indefinite self-multiplication? The affirmative answer to this question will probably be accepted without the need of discussion. Is the specific cause of epidemic cholera a micro-organism; that is, is cholera a parasitic disease? I do not hesitate to express the belief that the affirmative answer to this question is sustained by logical evidence which is almost, if not quite, conclusive. I use the term "logical evidence," in contradistinction to demonstrative proof. This evidence is two-fold: *First:* No other explanation harmonizes so satisfactorily with the facts pertaining to the transportation and diffusion of the special cause, the duration of epidemic invasions, and the successful measures for prevention. *Second:* Inasmuch as it has been demonstrated that the specific causes of certain of the infectious diseases are micro-organisms, it is fair to conclude, reasoning by analogy, that other infectious diseases arise from similar causative agents.

Has a specific micro-organism, standing in a causative relation to epidemic cholera, been discovered? This question is likely to give rise to considerable discussion, and it is probable that different opinions will be expressed. My belief is that the evidence in behalf of the validity of the discovery by Koch is so strong as to encourage an expectation of its being, with time and fuller researches, demonstratively established. I do not propose to enter into a discussion of Koch's discovery. I shall content myself with stating the fundamental requirements for the acceptance of its validity.

First.—The so-called comma bacillus must be invariably present in cases of epidemic cholera. This condition seems to lack but little in the way of demonstrative proof. The negative results are so few that they may be fairly supposed to be referable to insufficiency or unskilfulness, or bias on the part of the observers.

Second.—The comma bacillus must be wanting in the healthy body and in other diseases than epidemic cholera. With regard to this requirement, there is some discrepant testimony. There seems, however, good reason to distrust adverse testimony on the ground that the organisms found in the healthy body and in other diseases than cholera are not identical with the cholera bacillus, although morphologically similar. The characteristics incident to cultivation appear not to have been sufficiently taken into account by those who claim to have found this organism in the mouths of healthy subjects, and in the excreta of those affected with sporadic cholera, dysentery, or other diseases.

Third.—Can a disease identical with epidemic cholera be produced in animals by inoculating them with pure cultures of the cholera bacillus? With regard to this question, it is to be borne in mind that the negative results of inoculation do not constitute positive evidence against the parasitic doctrine, whereas successful results, however few in number, constitute absolute proof of the doctrine. This proof appears to have been obtained, but, in view of the liability to error in experimentation on animals, further researches in this direction are desirable.

Assuming the existence of a specific cause of epidemic cholera, irrespective of the doctrine that this cause is a micro-organism, certain interesting questions relate to the pathology of the disease. Does this special cause produce its primary effect upon the blood, the intestinal affection being secondary thereto, or is the primary effect upon the alimentary canal, and the changes in the blood and in the tissues elsewhere, secondary? Are the striking symptomatic phenomena of the disease attributable to the loss of the serum of the blood, or are these phenomena due to other unknown pathological conditions? Is there ground for the doctrine advocated by George Johnson, that the intestinal dejections denote a salutary elimination of a *materies morbi?* If the specific cause be a micro-organism, in what way does this produce its pathological effects? Does it act *per se* directly upon the solids and fluids in causing these effects, or does it produce a toxic product to which these effects are attributable, as conjectured by Koch? These and other pathological questions open up too wide a field for me to enter upon in these remarks.

Passing to the practical aspects of the subject, the most important are those which relate to the prevention of cholera. First in importance are the measures for the protection against importation of the specific cause of the disease. How far shall quarantine detentions and disinfecting measures be carried? What are the most efficient agents and processes for disinfection? These are questions of great importance as bearing on the protection of communities against the disease, and also as affecting commercial interests. The public naturally and properly look to the medical profession for information as the basis of legislation and municipal acts. To prevent the diffusion of cholera whenever it obtains a foothold in any community, is an object obviously of vast importance. In connection with this object, the question arises: How is the special cause of the disease disseminated? We know that it may be conveyed in drinking water. It seems impossible,

however, that this is the only mode of conveyance. That the special cause may be transported in the atmosphere is probable, if not certain.

Another question connected with the prevention of the disease relates to the choleraic dejections. It may be assumed that these contain the special cause, but is this the only source of the infective agent? The multiplication of the infective agent doubtless may take place outside of the body. Hence arises the question, What are the local conditions essential for the existence and increase of this agent after it leaves the body? Connected with this question is another, namely: What are the most efficient measures for the destruction of the special cause outside of the body? To what extent and under what circumstances is the special cause disseminated by means of fomites? This is a question the importance of which is obvious. As bearing on the prevention of the diffusion of the disease, an important question yet to be decided is whether the dejections in the cases of so-called *cholerine*, prevailing coincidently with cases of epidemic cholera, contain the special choleraic agent? If the answer to this question be in the affirmative, it is evident that disinfection of the dejections and other precautions are just as important in all cases of simple diarrhœa, prior to and during the prevalence of an epidemic as in well marked cases of cholera.

With reference to these several questions concerning the diffusion of cholera, it is needless to say that as much knowledge as can be obtained of the nature of the special cause of the disease is desirable. But, irrespective of any more knowledge in this direction than we now possess, experience has furnished facts of vast importance. Experience has demonstrated that epidemic cholera may be stamped out by disinfecting and other measures adopted to prevent the diffusion of the disease. For proof of the correctness of this assertion, I refer to the history of epidemic cholera as it occurred in the city of New York in 1866 and 1867. The disease in that city in the years just named was stamped out by efficient measures of disinfection and purification adopted by the Metropolitan Board of Health under the direction of the Sanitary Superintendent, the late Edward B. Dalton. The facts pertaining to the history of cholera in the city of New York in those years are contained in the volumes published by the state of New York in 1866 and 1867, entitled "Report of the Metropolitan Board of Health." For an account of the measures pursued and the successful results, I may refer to an article recently published in the *Philadelphia Medical News* of April 18, 1885, headed "On the Stamping out of Epidemic Cholera in the City of New York in 1866 and 1867." Another effectual method of preventing the diffusion of epidemic cholera is to employ prophylactic measures whenever the premonitory symptoms are present. Epidemic cholera is generally preceded by a painless diarrhœa. Experience has demonstrated that almost invariably the arrest of this premonitory event prevents the development of epidemic cholera. The difficulty in the endeavor to carry out this method of prevention is to insure a prompt arrest of the premonitory diarrhœa in all cases. For this end, house-to-house visitations daily, or twice daily, during an epidemic, by competent medical inspectors, in order to ascertain whether any of the occupants are affected with diarrhœa, and to furnish proper instructions for relief in all cases, constitute an important measure of prevention. It is probable that this measure alone, if faithfully carried out, would suffice to restrict very much the diffusion of the disease.

There is reason to believe that the removal of filth of all kinds from dwellings and their surroundings, avoiding polluted drinking water, and, in short, attention to hygiene in all its public and private relations, are highly important with reference to the prevention of cholera. But it is to be considered that purely unsanitary conditions will never lead to the development of this disease without the presence of the special cause. Moreover, the latter may give rise to cholera under conditions which apparently are not unsanitary. Important, therefore, as may be appreciable unsanitary conditions in the etiology of the disease, the specific causative agent is of greater importance. Were it a matter of election whether this agent should be destroyed or these conditions removed, there could be no doubt as to the choice. Of the particular conditions which promote either the dissemination or the efficiency of the special cause of cholera, we have as yet no positive knowledge; we can only direct sanitary measures against everything which may reasonably be supposed to be unsanitary.

Finally, the therapeutics of epidemic cholera offer a wide scope for inquiries. One thing is certain, namely, in the existing state of our knowledge, measures for the prevention of the disease are of vastly greater importance than any known therapeutical measures. Experience, as I believe, warrants the assertion that of all remedies in the first stage of cholera, that is, prior to the state of collapse, opium has no competitor. I believe, also, that after the occurrence of the symptoms which denote collapse, opium is to be used with very great caution. The drugs and various therapeutical appliances which have been recommended in the collapse stage of cholera are innumerable. Intravenous injections, to which attention has been recently directed, were tried and found unavailing in the epidemic of 1832. Not one of the countless methods of treatment has stood the test of experience. With the knowledge which we now possess of the cause, the pathology, and the treatment of epidemic cholera, it is perhaps a fair statement that a patient in the advanced stage of the disease has as good, if not a better, chance of recovery, if nothing potential be done in addition to maintaining

absolute rest and the introduction of fluids as freely as the stomach will retain them.

Dr. N. S. Davis, being called on by the Chairman, said that he had studied the epidemic cholera in all its aspects. He had encountered the disease at the bedside, both in hospital and private practice, in all its stages and phases. He had personally witnessed its beginning, progress, culmination, and decline in seven epidemic cholera seasons. The simple clinical facts thus coming under his own observation were wholly irreconcilable with the popular theories of the present day, concerning the importation of its specific cause, its propagation in the form of bacilli or germs from the evacuations of cholera patients, and the consequent contagiousness of the disease.

He had studied the cholera evacuations under the microscope with much patience and care, both in 1866 and in 1873. He always found an abundance of vibrios, bacteria or bacilli, especially after the evacuation had been kept from twenty-four to forty-eight hours. He had still, in his library, pencil sketches of microscopic fields made in those years, containing as exact representation of Koch's comma bacillus as can be seen in any of the cuts that have appeared in the medical journals of the last two years. But on extending his microscopic examinations to the serous discharges of sporadic cholera morbus and to the thin evacuations of the children having summer diarrhœa, he also found germs so similar that he could not differentiate the one from the other, and consequently regarded them as accompaniments rather than as causes of the choleraic disease. He did not think the epidemic cholera any more contagious (in the sense of being communicable from one individual to another) than is intermittent fever. But, like the latter disease, its origin and spread depend upon the local sanitary conditions of the soil and water, combined with persistent high atmospheric temperature. He was well aware that these views would be regarded as heresy by most of those present, and did time permit he would be most happy to give in detail the facts on which they were founded. But the very few minutes allowed to each speaker in these discussions precluded the statement of anything more than naked conclusions.

Dr. G. F. Jenkins, of Iowa, has noticed that a difference of opinion prevails regarding every so-called contagious disease. He had even heard men doubt the contagiousness of scarlet fever. He felt, however, that the profession, as guardians of the people, should give them the benefit of the doubt, and defend them in every way. He did not think that any one should stand up and talk against preventive measures. For treatment he would recommend the injection of salt water under the skin in different parts of the body.

Dr. Schauffler, of Kansas City, hoped he had misunderstood Dr. Davis in saying that cholera is not imported. He supposed if any question was settled it was that the cholera is an Asiatic disease. Its home is on the Ganges River, and it travels only as rapidly and along such lines as human beings convey it. It can not arise *de novo* in New Orleans or in Chicago. Dr. S. was in New York as a student in 1866 and 1867 and he bore enthusiastic witness to the thoroughness and successfulness with which Dr. Dalton carried out his sanitary measures at that time. People were turned out of their infected houses and the buildings with their contents so thoroughly fumigated that the disease was crushed out. He thought such stringent measures were easier then because the people were accustomed to bayonet rule just after the war. Such methods might not be so easily prosecuted now. When a boy Dr. Schauffler witnessed an epidemic of cholera in Constantinople, whre it raged with terrible violence. The thirst was insatiable and tormenting, but he noticed that those who resolutely refused to drink, though suffering agonies of the damned, got well, while those who drank water died. He would therefore take exception to Dr Flint's allowance of fluids.

Dr. Joseph Jones, of New Orleans, said that he was also in New York during the cholera epidemic of 1866, and that he entertained a high opinion of the labors of Drs. Dalton and Elisha Harris.

Dr. M. K. Taylor, of Fort Sill, Indian Territory, said that he had had considerable experience with cholera since 1832. During the attack of 1872 he was in north Alabama with some troops, and great good was accomplished by strict isolation and proper hygienic measures. For treatment he said, "In the early stages we possess no remedy comparable with opium." But he agreed with Dr. Flint that opium is not so valuable in the last stages.

Dr. J. T. Whittaker, of Cincinnati, said that he knew that cholera is a disease which multiplies in the body and is transmitted to other bodies. No diseases consisting of chemical changes in the system do thus multiply or are thus transmissible. In regard to the comma bacillus, however, no one claims that it is proven to be *the* bacillus of cholera. Neither Koch nor any of his followers have positively stated that they think that the comma bacillus is the definite cholera bacillus. It is a well known fact, however, that mild cases of cholera, apparently simple diarrhœas may contain the germs of the disease and therefore should be treated as rigorously as a severe case, especially in regard to disinfecting measures.

Dr. N. Gay, of Columbus, Ohio, said: "If you find a man in black collapse, and he can still pass a little water, put your ear to his chest; if you can still hear the regular tic-tac of his heart, work with him. If, however, the heart sounds are obscured you need not trouble yourself any further with him. He is gone."

THE TREATMENT OF OBSTINATE VOMITING OF PREGNANCY.[1]

BY AUGUSTUS P. CLARKE, M.D.,

OF CAMBRIDGE, MASS.

Of the sympathetic signs of pregnancy, no one is more common than morning sickness; and when the vomiting becomes obstinate or uncontrollable, no condition connected with the pregnant state is more depressing and exhausting to the vital powers. Mention of this condition is found in the writings of the ancients. Thus, Hippocrates prescribes rules respecting the remedial use of agents for this state; he says: "if matters be turgid [in a state of orgasm] in the pregnant woman, she should be purged"; but adds that purging is unsafe in the earlier and later stages of pregnancy. By purging, Hippocrates does not mean simply the administration of purgatives, for he speaks of purging upward in the summer and downward in the winter. This was done according to the ancient ideas to relieve the contents of the vessels that were ready to burst forth with plethora.

Wilson Fox (Reynolds' System of Medicine, Vol. III, p. 48) mentions fifty-eight cases collected by Cartaya; thirty were fatal and twenty-eight were cured after abortion or the death of the fœtus—fourteen of the latter having had premature delivery induced with success. One case recovered after leeches were applied to the cervix, and two recovered through the use of champagne. The same author states that Bretonneau reports that much benefit was derived from friction of belladonna over the hypogastric region, and that the application of the extract to the cervix was resorted to with success. In examining further the literature of the subject, the writer finds that practitioners have reached singular and different conclusions in their use of remedial agents for such sickness.

Mr. Edward Garraway (*British Medical Journal*, March 18, 1869, and *Retrospect*, Part 59, p. 198) states that carbolic acid was the only remedy that he had found of any avail for sickness of pregnancy. He gave drop doses of the crystals, liquefied by heat and diffused in half an ounce of thin mucilage, three times a day. He reports two of the most noteworthy cases of other forms of sympathetic vomiting in which this agent proved no less valuable. In the writer's own practice he has used carbolic acid in similar doses for its sedative influence on the gastro-intestinal mucous membrane, and for its anti-fermentative action on the contents of the *primæ viæ*. An interesting case of vomiting of pregnancy treated by hypodermic injections of acetate of morphia is reported by Mr. John Harrison, of Congleton, England. In this case the vomiting was most severe and distressing, the paroxysms occurring at intervals seldom longer than fifteen minutes. The stomach would retain absolutely nothing. A grain of acetate of morphia was dissolved in ♏. vi of water and injected ♏. j three times daily. The vomiting at once abated, and the patient grew stronger. The dose had to be increased to ♏. xiv twice a day. The treatment was continued for two or three months, but when the doses were intermitted there was invariably a tendency toward a relapse. This treatment was only partially successful, for a miscarriage was determined upon and was induced by drastic purgatives and ergot. Even after the fœtus was expelled the gastric irritation continued, necessitating the continuance of the morphia more or less frequently until the menses returned. The skin of the forearm was pierced two hundred and sixty times. The effect of the morphia was felt in the heightened spirits, toleration of food, and increased energy; but from the obstinacy of the sickness, and the necessity of continually increasing the doses, the continued exhibition of this drug became altogether unsafe.

The writer has long since found by his own practice, in cases of vomiting of pregnancy, that the exhibition of morphia in any form should be resorted to only as an occasional remedy; for in one case in which he allowed the patient to use morphia in sufficient quantities to control the distressing symptoms, after a few months she acquired the habit of taking by subcutaneous injections from sixteen to twenty grains a day, and even this did not fully relieve her of the uncomfortable symptoms. Mr. C. C. Fuller, of London (*Lancet*, December 4, 1869), reports two cases of vomiting of pregnancy successfully treated by ipecacuanha, which he considered far superior to hydrocyanic acid, nitrate of potassium, oxalate of cerium, opium, nitro-muriatic acid, bismuth, alkalies, and quinine. He briefly reports two cases of multiparæ, and mentions other cases which were successfully treated with this drug. One case was that of a lady, aged thirty-two years, mother of five children. She had suffered in all of her previous pregnancies with retching and vomiting occurring many times a day. At the time that Mr. Fuller was called the patient was in her fifth week of pregnancy, and the retching and vomiting were as severe as previously. He prescribed a drop of wine of ipecac in a teaspoonful of water every hour; on the second day of the treatment all retching and vomiting had ceased. The medicine was given afterward, as a rule, in drop doses on the occurrence of the nausea. During the remainder of the pregnancy it was necessary to administer only one dose a day.

J. Waring Curran once highly extolled the use of oxalate of cerium, and he mentions it as having been first used by Sir James Y. Simpson. The following is his formula:

℞. Cerii oxal.
Ext. lupuli āā .....gr. xxiv.
Div. in pills No. xij Cap. j ter in die.

With this he exhibited bromide of potassium in

[1] Read before the Boston Gynæcological Society, April 9, 1885.

gr. x doses, with the tincture of cinchona flava and spirits of ammonia. The use of this mixture and the pills he regards as an admirable plan of treatment (*Med. Press and Circular*, 1869).

Dr. S. A. Lucas Kirkdale, of Liverpool, speaks of the maximum doses (gr. iij), of oxalate of cerium as effecting the cure of nausea of pregnancy when all other well known remedies had failed (*Medical Press and Circular*, August 4, 1869). Dr. Francis Edward Image, M.A. (*Practitioner*, June, 1878), believes that the officinal dose of one to two grains of oxalate of cerium is useless as a rule; he advises that it be used according to Simpson in ten-grain doses. He regards such doses as more efficacious in restraining the nausea resulting from uterine irritation.

Mr. Metcalfe Johnson, of Lancaster, England (*Med. Times and Gazette*, 1871), formerly used phosphate of lime for nausea of pregnancy. He says that the disorders of the great sympathetic and its subjected organs are generally characterized by a dislike to all sweet flavors, and that the altered shape of the uterus, the altered nerve relations, the control of the ganglionic nerve to sustain the new vascular system to be established, cause an unusual demand upon the nervous energy. Much of the neuric force is derived from phosphates. The formation of the child requires phosphates for its new bones and other structures, and if these be not liberally supplied the brain and ganglionic nerves must suffer and nervous debility ensue. He refers to the ganglionic system being disturbed through the stomach, and mentions the remark once made by Coleridge, that he had hope for a person who liked his pudding. One thing curious to note in reading the above is the eagerness with which our author, like many others who have a new theory to advance, endeavors to maintain it by ingenious explanations. He seems to forget, however, the fact that sickness of pregnancy often ceases immediately after quickening, even when there is a greater demand on the neuric forces or elements in the later stages of the fœtal existence.

Dr. Simmons, chief surgeon to Ken Hospital, of Yokohama (*Med. Record*, June, 1884), mentions having used chloral by the rectum in the vomiting of pregnancy. He reports three cases. In one case, the patient aged thirty years, and in the third pregnancy, there was excessive vomiting which commenced during the fifth week of pregnancy and continued until the tenth week, when he was first called to attend her. He used thirty grains of chloral hydrate in mucilage night and morning. The second day's use of the remedy arrested the vomiting, and it returned only at long intervals. Larger doses were given so as to produce a decided impression on the nervous system. Its repetition but two or three times, he remarks, will often put an end to the trouble, for the time at least.

The writer has found this an admirable plan of treatment, and in certain cases, in which a hypnotic in full doses is not otherwise objectionable, chloral hydrate will be of great service. In several cases of vomiting of pregnancy the writer has used chloral hydrate and croton-chloral, both by injection and by suppository, with marked benefit.

Dr. Edward Copeman, senior physician to the Norfolk and Norwich Hospital (*British Med. Journal*, May, 1875), reports three cases of obstinate vomiting of pregnancy treated by a novel method. The first case occurred in June, 1874. The lady was about thirty-five years old, and was six months advanced in pregnancy. As soon as the cervix was dilated so as to relieve the tension, all vomiting ceased, and she went on to the full period. The results in the other cases were similar. Dr. Jabez Thoms, of Swansea, as early as 1868, had used one of Barnes's dilators as a means of inducing premature labor. Dilatation of the cervix was also assisted by the fingers. The patient became better the same day, and made rapid recovery, without further attempt at premature delivery. This he considers due to the relief from the tension, as in the case reported by Dr. Copeman.

The writer can refer to ten cases occurring in his practice in which a similar relief was afforded by digital dilatation. One case, however, was more obstinate. The patient's age was twenty-three years, and she was in her first pregnancy, which had advanced to the ninth week, when the vomiting became so excessive, and was continued at intervals during day and night. When he was first called, on May 25, 1881, the patient was in bed, with a large wash tub by her side, so great was the quantity of matter vomited. Acetate of morphia in small doses was prescribed, but this was only partially retained, and no relief was afforded to her distressing symptoms. Digital dilatation of the cervix was resorted to on the third day after the first visit. This was continued for about half an hour, until the first phalanx of the index finger could be inserted into the os uteri. On the next day the patient was better; and on the third day all the distressing vomiting had ceased, and she declared herself well. The patient continued better, and was confined on December 27, 1880. The child was healthy, and of the normal size at full term. The patient's mother said that during the afternoon of the day on which the writer made the dilatation of the cervix, the patient was easier than she had been for the past three weeks, though she was quite exhausted after the operation was finished.

Though this plan of treatment has been successful, it should not be inferred that it will always be so, for gastric irritation will often remain for some time, even after the fœtus has been expelled, as was the case reported by Dr. Harrison. He, it will be remembered, was compelled to induce a miscarriage, but had to continue the use of hypodermic injections of acetate of morphia to relieve the gastric disturbances until the menses returned.

In cases in which either lip of the os is hard and unyielding, a urethral bougie may be used. The writer succeeded in one case in relieving the distressing symptoms by this means, and abortion was not induced. This was once accomplished by Dr. Roberts, of Portmadoc (*British Med. Journal*, 1880).

The writer once heard the late Dr. Anson Hooker, of East Cambridge, remark that he had often had the credit of relieving sickness of pregnancy by several different methods. In one case he succeeded by forced alimentation; and in another he finally succeeded, after trying many different plans, by the liberal use of Jamaica rum. This Dr. Hooker considered as accomplished through the influence of the imagination, or through the nervous and ganglionic centres; or, in some cases possibly, when the irritable stomach was about to commence a retrograde process.

In one case, in which the patient was seven weeks pregnant, and was unwilling and too timid to allow the cervix to be dilated, the writer succeeded quite well in the use of koumiss, in small quantities, and with occasional doses of hydrobromic acid prepared according to the formula of Dr. J. Milner Fothergill. The medicine was given in half-drachm doses, four or five times a day. This, according to Dr. Fothergill, exercises a powerful influence over acts of reflex origin, and general nervous excitability or exhaustion. (*British Med. Journal*, July, 1876.)

Within the past few years ingluvin has been used by American physicians, and reports of cases of vomiting of pregnancy treated by the administration of this agent have been very favorable. Some six years ago (June, 1879), the writer being called to treat a case of such obstinate vomiting, resorted to the use of ingluvin. The patient was twenty-six years old, and advanced in her third pregnancy to the seventh week. Whatever the food swallowed, it was immediately rejected. She was greatly prostrated, and her nervous system unusually depressed. Five-grain doses of ingluvin were given every four hours. The drug acted quickly, and on the next day the patient was able to retain some light nourishment. The ingluvin was continued at intervals for some weeks, and the patient rallied and went on to full term. During her previous pregnancies she suffered much from morning sickness, as well as nausea, and sometimes a good deal of vomiting. Her next pregnancy began about April, 1881. During the early stages of this pregnancy, from the sixth to the eleventh week, ingluvin could not be taken. The vomiting became excessive. There was a great deal of tenderness, simulating localized pelvic peritonitis, though there was no marked increase of temperature. The patient might have been regarded as anæmic; she really was not of a plethoric habit. In the treatment of this case small and frequently repeated doses of siphon soda, and the application of small blisters over the fourth and fifth dorsal vertebræ at length put an end to her distressing symptoms. The application of a blister was always followed by a marked cessation of her obstinate vomiting or nausea. Such application of blisters is mentioned by Alexander Harkin. (*Retrospect*, Part 90, p. 216.) She was delivered of male twins at full term.

Some authors have spoken of forced alimentation for the cure of the sickness of pregnancy; but in the cases in which such alimentation has been successful, it has been the writer's experience that the morning sickness does *not* take the place of nausea and vomiting, which last all day. In the former case the treatment, to be successful, must be, not by deferring the substantial meal until mid-day or later, but medicinal agents and substantial food must be taken earlier in the day.

Another means of treating vomiting of pregnancy should be briefly mentioned: it is the application of the tincture of iodine to the *os uteri*. The writer first learned of this means of treatment in the year 1867, from the late Dr. Anson Hooker. Dr. Hooker, about this time, had under his care a case of obstinate vomiting of pregnancy, which finally proved fatal. Obstetric writers had previously mentioned the benefit to be derived from this course of treatment. The case in which the writer made use of iodine was that of primipara, aged twenty-two years, who began to suffer from vomiting on the sixth week of her pregnancy. Some three applications of the common tincture sufficed to relieve the distressing symptoms, and the patient went on to the full term of her pregnancy. The writer subsequently used tincture of iodine locally on the os for excessive vomiting, but having met with some untoward symptoms, was finally advised by a consultant to discontinue the practice. He is now satisfied, after an extensive use of iodine as a local application in certain morbid processes of the cervix, that it is a valuable means of relieving the sickness of pregnancy. He has used it within the past few years in some six cases, and in all of them the vomiting was speedily and effectually relieved. Churchill's tincture of iodine, when at hand, is to be preferred. Though it is desirable to make a decided impression on the cervix, it is best to be quite cautious at first, for in certain cases, in which peculiar sensibility or idiosyncracy exists, a deep ulcer or slough may be produced, which would prove very embarrassing to the medical attendant. The writer cannot say that this plan is always preferable to the method of Copeman, but in certain cases it is worth while to adopt it.

In the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Vol. IV, No. 8, p. 205, will be found a report of a case of uncontrollable vomiting of pregnancy successfully treated by the use of cocaine. Dr. M. Weiss, who recorded the case in the *Prager medicinische Wochenschrift*, states that the patient, twenty-eight years old, and pregnant for the fourth time, commenced vomit-

ing three weeks after the last appearance of her menses (which was September 1). Previous to the administration of the cocaine no medicine seemed to give any relief; nutrient enemata could no longer sustain life, and the danger of death from inanition became imminent. On November 7 there was given every half hour one small teaspoonful hydrochlorate of cocaine, in sufficient quantity of spirit of wine to make a solution of cocaine 0.15 to distilled water 150.0. Even the first doses benumbed the sense of taste. The patient soon revived, and was able to retain nourishment, and by November 10 was able to leave her bed. Soon after that her condition became quite satisfactory, and she was able to retain the greater part of her food. After that time she was able to attend to her usual occupation. The writer's experience with this agent has thus far been quite limited, and the chief objection to its use at present is its high price.

Before closing this paper, the writer will briefly report two cases of excessive vomiting of pregnancy, in which abortion was resorted to with success. The first case was that of Mrs. C., an English lady, twenty-one years of age, who was married in September, 1867. On February 21, 1868, the writer was called to attend her. She was then suffering from excessive vomiting, and could retain absolutely nothing. She stated that her two sisters were greatly troubled with sickness of pregnancy. She was greatly depressed; her pulse was rapid and small, sometimes exceeding one hundred and forty beats a minute. The cervix was small, and the uterus somewhat anteflexed. She had experienced from time to time a good deal of trouble from dysuria, and the urine contained traces of albumen. Enemata of beef tea or beef essence and milk were resorted to; minute quantities of iced milk and champagne were administered by the mouth.

In a short time all nourishing enemata had to be discontinued, as severe diarrhœa set in. The vomiting became so aggravated that the writer was sent for early in the morning with the message that the patient was believed to be in a dying condition. Dr. Hooker also reached the house of the patient about the same time. This was on March 1. A brief consultation was held, and it was decided that the uterus should be emptied as speedily as possible, the patient being partially collapsed. The writer at once used a medium-sized gum urethal bougie (No. 14, French scale), which was inserted into the *os uteri* and there left for some hours. Sinapisms and hot fomentations were applied to the abdomen and extremities. Sixty drops of tinctura opii in starch were given by the rectum. The patient revived; on the next day the fœtus was expelled, and by means of a strong wire curette the placenta was removed. After the fœtus was expelled all vomiting ceased, and the patient, though extremely weak, made a remarkably speedy recovery.

The next case was that of Mrs. D., an American lady, aged twenty-seven years, descended from a nervous family. She had been married five years. She miscarried at the third month during her first pregnancy, and had a slow recovery. The second labor went on to full term, but the child was feeble and was still-born. In both of these pregnancies she suffered greatly from nausea and vomiting, and during the latter pregnancy the vomiting continued more or less until the end of that term. At the time the writer was called, which was on April 25, 1881, the patient was eight weeks pregnant. She had been under the care of a lady physician, who had dosed and vesicated her to such an extent that little was left for further trial. The temperature was subnormal, and the pulse feeble and frequent. Absolutely nothing could be retained on her stomach. The patient was rapidly growing weaker, and it seemed only a matter of a short time when she must succumb unless the uterus could be safely and speedily emptied. It was with some difficulty that the writer succeeded in convincing his consultants that any advantage would accrue from a resort to so severe a measure, as so little hope was entertained of her recovery in any event. A flexible olive-tip bougie (No. 14, French scale) was inserted while the patient was in Sims's position. The bougie was left in place for fourteen hours, when uterine pains began, and by means of digital dilatation the patient aborted in ten hours after the first pains commenced. The bougie was passed according to the directions given by Mr. John C. Lucas, in a spiral direction across the fundus, the point being kept between the uterine wall and the membranes, so as to avoid violence to the latter (*Retrospect*, No. 71, p. 190). As soon as the placenta was expelled all vomiting ceased, and the patient made a safe and comparatively quick recovery.

The condition of these two cases being so unfavorable and unpromising, serves to strengthen the conviction that no case of obstinate vomiting in pregnancy, however desperate, should be abandoned until every reasonable effort has been made to empty the uterus as speedily as possible as a last resort.

MEDICAL PROGRESS.

ANATOMY AND PHYSIOLOGY.

THE DIAGNOSIS OF SUBMERSION DURING LIFE OR AFTER DEATH.—The Paris correspondent of the London *Lancet* writes that, struck with the divergence of opinion among authors as to the diagnosis of submersion having taken place during life or after death, Dr. Bougier made a new study of the subject. From experiments and autopsies at the morgue, he formulates the following conclusions: 1. The exterior aspect of the body is about the same in both cases—that is, when the body has been submerged before or

after death; the appearance of moss on the body would be of some diagnostic value. 2. Water and foreign bodies penetrate into the air passages and into the bronchial tubes of those submerged before, as well as of those immerged after death; but in the latter the foreign bodies do not go beyond the fifth or sixth divisions of the bronchial tubes, and the liquid is arrested at the bronchi of medium size by the column of compressed air; whereas, in the submerged during life, it penetrates down to the small bronchial tubes. 3. The epiglottis is vertical in the submerged; it is only half open in the corpses immerged. 4. Water penetrates in a pretty large quantity to the stomach of the former, but never to that of the latter; and in making a comparative analysis of the liquid found in the bronchial tubes, one might arrive at a certain diagnosis. 5. The same is the case with the middle ear. 6. The characteristic moss is found only in the submerged. 7. If the fluidity of the blood exists in certain cases of poisoning by opium, it is easy by the aid of the spectroscope, and by analysis, to form the diagnosis. 8. In putrefied corpses, all the signs have nearly disappeared, and the medical jurist can only draw conclusions by presumptions.—*Medical Record*, May 16, 1885.

MEDICINE.

VALVULAR FRICTION SOUNDS.—DR. ANDREW H. SMITH, of New York, in an article on this subject, says: Any practitioner who is in the habit of studying carefully the sounds of the heart must observe cases in which the closure of either the mitral or the aortic valve gives rise to a sound which is not strictly a murmur, but which is also not the typical normal sound. The heart-sound, first or second, as the case may be, is slightly lengthened, and its quality undergoes a change. The first part of the sound has the normal character, while the second, which is of the briefest duration, suggests the idea of something added. This is sometimes expressed by saying that the sound is *impure*. It was formerly, and probably still is, usually attributed to slight leakage. But the addition to the normal sound differs from a regurgitant murmur in its quality, in its shorter duration, and in the abruptness of its beginning and ending. Moreover, it is often met with in cases in which there is no other sign or symptom which could be referred to valvular lesion, and in which the history presents none of the recognized antecedents of cardiac disease. Of late the diagnostic value of these impure sounds has been called in question by different authorities, but no definite explanation of their production has been given.[1]

A careful study has led me to the conviction that they are due to a readjustment of the curtains or cusps to each other after their first contact. In the case of the mitral valve, for instance, the commencement of systole throws the curtains together; but, as the systole gains in force, and the pressure of the blood becomes greater, a difference in the relative tension of the curtains would cause a slipping of one upon the other, and the production of a friction sound which, from the slightness of the motion, would be brief and abrupt. Such an inequality in the tension of the curtains would result from a difference in their area, or in the length of the tendinous cords, or in the action of the papillary muscles. In the case of the aortic valve, a slight thickening of one of the cusps would occasion a similar readjustment.

I have observed this sound at the apex most frequently in those cases in which there is an accentuated second sound at the base; or, in other words, when there is increased arterial tension. This may be explained by the greater intraventricular pressure and thus consequently increased tension of the valve curtains. In fact, I think it will be found that in a very considerable proportion of cases of contracted kidney, with increased arterial tension, the apex first sound is not pure, even though signs of decided cardiac implication may not be present.

Cases in which there is opportunity for verifying by post-mortem examination the views which I have expressed are in the nature of things rare. Still, I can recall two cases occurring some years ago, in which slight regurgitation was confidently diagnosticated by myself and others, but in which, at the autopsy, the valve was found competent by the hydrostatic test. I now believe that in these cases a valvular friction sound was mistaken for a regurgitant murmur.

This matter is important not only as a question of nice diagnosis, but as affecting prognosis and treatment. For, if we accept a given sound as possibly indicating the beginning of valvular insufficiency, we are naturally in doubt whether the insufficiency may not increase, and in the course of time the symptoms of valvular disease be developed. But if we regard the sound as produced by friction between the valve-curtains or valve-cusps, we can more confidently give a favorable prognosis, and the restraints usually imposed upon patients with valvular insufficiency will not be considered necessary.—*Medical Record*, April 18, 1885.

BUCKWHEAT FLOUR IN DIABETES.—DR. A. M. DUNCAN, of Hamler, Ohio, writes that Dr. Alvord, a retired practitioner of that place, who is a sufferer from glycosuria, finds more relief from a diet of pure buckwheat flour cakes than from anything else. While he adheres to this food the urine becomes nearly normal in quantity and quality, there is no gastric distress, and the pain in the eyes—nearly destroyed by chronic iritis,—is markedly relieved. On resuming the use of wheat bread and other starchy foods, the symptoms become aggravated, to be again relieved upon a return to buckwheat.—*Medical Record*, May 16, 1885.

[1] Scheube: Klin. Propädeutik, 1884; Friedreich: Handb. der Sp. Path. & Ther., Virchow. 1861.

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CICATRIZATION IN BLOODVESSELS AFTER LIGATURE.

Probably the most exhaustive paper read before the American Surgical Association in 1884 was one by Dr. N. Senn, of Milwaukee, entitled "Experimental Researches on Cicatrization in Bloodvessels after Ligature." The pamphlet form of this paper, now before us, occupies 117 pages with the short discussion. The first forty-six pages are devoted to the history of the ligature, histology of bloodvessels, the various ligatures, and to the subject of thrombosis after ligature.

How is cicatricial tissue formed in bloodvessels after ligature? It is to the consideration of this question that the paper is mainly given. This process has been attributed to: 1. Adhesive inflammation and plastic exudation at the seat of the ligature without reference to any histological changes. 2. Fibrin. 3. White blood-corpuscles. 4. Red blood-corpuscles. 5. Immigration corpuscles. 6. Connective tissue. 7. Endothelia. It is of course unnecessary to dwell at any length upon the views of the authors who have advocated the various theories as to the formation of cicatricial tissue by these substances or processes. After a careful review of these theories Dr. Senn rejects those which attribute the formation of the cicatrix to adhesive or plastic inflammation, to fibrin, to the leucocytes or red corpuscles, to immigration corpuscles, or to the endothelia or connective tissue exclusively; and holds that "the macroscopical and microscopical examination (of the specimens obtained from his experiments) are alike confirmatory of the assertion that the intra-vascular cicatrix is the exclusive product of connective tissue and endothelial proliferation.

For the purposes of these experiments fifty-four experiments were made; fifty-two upon the sheep, and two on the horse. The operations were all done under antiseptic precautions. "The vessel sheath was always opened to the extent of an inch or more, and the artery or vein completely isolated to the same distance, when two ligatures were placed underneath the vessel. The proximal was tied first in tying arteries, and the distal in the case of veins, the vessel was made bloodless by tying the second ligature in close contact with the first and by making traction upon both ends, and sliding the loop to the required distance, when the return of blood was prevented by an assistant compressing the vessel . . . . until the ligature was tied. . . . In tying the ligatures it was aimed not to injure the internal coats, but simply to approximate the inner surfaces of the intima so as to effect provisional closure of the vessel. The ligatures were usually applied about one-half to one inch apart."

In these experiments suppuration occurred only eight times out of fifty-five, each time with the temporary ligature. In all of these cases the vitality of the intervening portion of the vessel was partly or wholly destroyed, and when a sufficient length of time had elapsed this portion of the vessel was usually completely separated and within the abscess cavity. "Secondary hæmorrhage, however, was never observed as the result of suppuration or sloughing of the intervening portion, as the narrow intra-vascular cicatrix in both ends of the vessel was usually supported by a strong para-vascular ring of connective tissue which formed a part of the thick walls of the abscess." Dr. Senn draws, from these facts, the following conclusions: 1. All surgical operations on bloodvessels should be performed under strict antiseptic precautions for the purpose of preventing suppuration. 2. In aseptic wounds the complete isolation of a vessel from its sheath for a distance of one inch is not followed by any serious disturbance of nutrition in the vessel-walls. 3. Suppuration invariably produces a loss of continuity of the vessel at the seat of ligature. 4. Inflammation beyond the limits of the reparative process interferes with the typical formation of the intra-vascular cicatrix. He shows that thrombosis is by no means a necessary consequence of ligation; that it often fails to occur,

but that its absence does not in any way prevent or retard prompt closure of the vessel. In his experiments on arteries, in thirty-four cases the presence of a proximal thrombus is mentioned thirteen times to ten distal thrombi. "Only in exceptional cases, both in arteries and veins, did the thrombus reach as far as the nearest collateral branch. The results of these experiments render it obvious that the time-worn rule laid down in most of our text-books on surgery, which directs the operator to apply the ligature in such a manner as to leave a space of one inch or more between the ligature and the nearest proximal collateral branch for the purpose of insuring the formation of a thrombus, is wrong both in theory and in practice."

In these experiments "all ligatures were made strictly aseptic, and in all instances where suppuration did not follow the operation they were encysted irrespective of the material used. Silk, silkworm-gut, and horsehair were not affected by the granulating process, but were always found unchanged in the cyst. In all aseptic wounds the loop of the ligature was found covered completely by the swollen adventitia after the first forty-eight hours. . . . Catgut applied itself easily and smoothly to the exterior of the vessel-walls, and by becoming softened and infiltrated with cells, it appeared to constitute a part and parcel of vessel-tissues until it was replaced by substitution by a ring of organized tissue, which served as a material support to the vessel until cicatrization was completed, thus preserving the continuity of the vessel." All other kinds of ligatures appeared to act as foreign bodies on the vessel tunics, and invariably produced a solution of continuity after a certain length of time. For the following reasons, therefore, Dr. Senn believes that catgut is the most desirable and efficient material for ligatures: 1. If it be well prepared it will resist absorption until definitive obliteration of the vessel has taken place. 2. It does not act as a foreign body, and does not destroy the continuity of the vessel. 3. It is completely absorbed and replaced by organized tissue, which furnishes an additional support to the walls of the vessels at the seat of cicatrization.

In summing up his paper, with a few practical suggestions, Dr. Senn states that it is his belief that "all kinds of ligatures, provided they have been made aseptic, always become encysted in aseptic wounds"; but that ligatures which permanently resist absorption destroy the continuity of the vessels, and therefore weaken the vessel-wall at the seat of ligation. "The aseptic animal ligature possesses two distinct and important advantages over all permanent ligatures: 1. It does not necessarily destroy the continuity of the vessel. 2. It adds additional strength to the extra-vascular cicatrix." He is convinced that in many of his experiments the internal arterial tunics remained intact after ligation; but cicatrization progressed in a satisfactory manner. "Hence it is no longer necessary to tie the ligature so firmly as to crush the tunics of the vessels. All that is necessary is to tie with sufficient force to approximate the inner surfaces of the intima with a view to insure effective provisional obliteration of the vessel." And it is readily seen that if cicatrization takes place from the fixed cells of the vascular tunics *without* the formation of a thrombus, the vessel may be safely ligated close to a collateral branch, should such a course be necessary. He shows, furthermore, that the fears of making a free opening in the sheath of the vessel are groundless when the operation is done under antiseptic precautions and with the aseptic ligature; and that the free opening renders the operation safer and more easy of execution. "The double aseptic catgut ligature should be preferred to the single ligature in ligating large arteries in their continuity near a collateral branch, and should be employed in all operations of tying varicose veins in their continuity, as the safest and most effective measure in producing definitive obliteration."

THE STATUS OF THE AMERICAN DOCTOR.

The period of gestation of the medical colleges having been recently completed without serious accident, with the usual accompanying crop of valedictory, inaugural, graduate, and alumni addresses, all containing more or less mention of the exceedingly low status of the profession in this country, and all, without exception, giving the infallible methods of dealing with this depraved condition of the profession, it seems a very proper time to inquire as to the real state of the matter.

Is the American doctor a hopeless ignoramus? A careful reading of some four or five dozen of these addresses would probably show that he is; and furthermore, that he is becoming more so every year. But should the reader, with gloomy forebodings as to the future of the people whose

lives are often in the hands of this uneducated (?) mob (?), turn to the columns of our best journals, or look upon their library shelves and see the names, which in quite a number of cases, are known even outside of a county; or should they compare those names with those most prominent in other countries; or should they visit our hospitals and see the physicians and surgeons in charge—men who, as a rule, will rank with the highly educated and much-degreed medical men of other countries, he may possibly take courage, and hope that in course of time a man educated in an American institution may know quite as much as one who has been "lately fifth assistant in a Vienna Klinik."

It is just and reasonable that every thinking man should desire that medical education be carried to the highest point of perfection. But all the commencement addresses that can be delivered and printed in a century will not carry it to that point. The young men who listen, or are supposed to listen to them, are not in a proper frame of mind to connect the words of the addresses with their proper meanings. It is very much like telling a young child who has just received a cake not to eat between meals. The wholesale denunciation of the colleges is of no avail whatever; for every man thinks that he has his diploma from the best college in the country. We have serious doubts if those who deliver these denunciations would admit for a moment that *they* are not possessed of a liberal medical education; they intend their remarks for those other fellows (who probably have graduated at their own colleges). They do not seem to reflect that they are casting a boomerang which will describe a curve peculiar to that weapon and strike *them* on the back of the head. Those who deliver the addresses are much in the habit of advising young men not to study medicine; but if they are bent on starvation they should go to a respectable college—in other words, come to *that* college. It must be particularly pleasing to a new graduate to be told that he has wasted three years in study only to starve in the end; and sometimes the very natural question will come up to him, while listening to these poetic prophesies of his future: Why have *you* not starved? Medical men do not usually become millionaires (unless by marriage), but as a class they are very comfortably off.

If one be desirous of higher medical education he should work for it in a reasonable way, commencing by working for state boards of health; one good board will do more than a library of "Medical Reform" addresses delivered to recent graduates who do not listen to them. It would be much better to print them quietly, in a somewhat different strain, and flood the legislature with them. The American title may be in very bad repute abroad—and often is. Some of the European countries will not receive American diplomas as entitling to practice; and the writers of those countries look down from a very pinnacle of scorn at the title. But we have noticed that American authors, who were so unfortunate as to be miseducated (?) in American colleges, are freely and frequently quoted by those same writers. And sometimes, when they come to this country as visitors they are glad to associate with men holding the despised American degree; or when they come to settle in practice they sometimes actually consult with our heathen doctors. The sweeping condemnation of everything American in medicine is unreasonable, out of place, and in bad taste; and we notice that those who indulge in this condemnation, and who hold out such alluring prospects of starvation seldom practise their preaching by abandoning the profession; on the other hand, the college course being over, they often leave for an extended tour in Europe—possibly to gather materials for the next year's address. There is room for medical reform in this country; but it will never be brought about by addresses which distort facts until their best friends cannot recognize them. There are ignorant men in the profession in America; and there have been and are men whose names will live until medical science shall have become a myth. There are bad colleges in America; but they cannot be made better by words.

There is one other point in this connection: it has been proposed to keep out of the profession those who have no academic degree. It does seem that everyone should know that the possession of a degree from an academic institution is in no way a test as to a man's acquirements. If American customs will allow medical colleges with low standards of graduation, the same must hold good for the preliminary institutions. We have seen graduates of highly respectable academic colleges who could not read the Latin in which their diplomas were printed. An engraved piece of parchment may mean a great deal, or it may mean nothing, so far as

showing what the possessor knows. Yet, strange as it may seem, those who advocate that a college diploma (in Arts) shall be required of a student, before he is admitted to the study of medicine, are very well aware that a medical diploma is no test of medical acquirements; and in many cases they are the ones who advocate that every graduate shall be examined by a state board of health before he is allowed to practise. A more glaring inconsistency could not be shown. If a college wishes to place a premium on academic acquirements it should require a preliminary examination regardless of the institution from which an applicant has graduated; and it should be remembered that it is not always the college with the largest numbers, nor with the greatest reputation, that turns out the best men. The so-called "college education" practically stands for nothing in *estimating* knowledge; but of course it may be taken as a general rule that the college graduate has a fair education, though he should not be exempt from the preliminary examination on account of his diploma.

To sum up, then, there are three, and only three, methods for raising the standard of medical education: first, by strict preliminary examinations; second, by taking away from the colleges the licensing power altogether; third, though not strictly necessary, by removing the power to grant degrees from the colleges; all of which power should be vested in the state boards of examiners, chosen for proficiency and not on political grounds.

A MONUMENT TO BENJAMIN RUSH.

Following the editorial pages in this issue of the JOURNAL we give the report of the Committee on the Erection of a Statue to Dr. Benjamin Rush. It will be seen on reading this report, that the committee urge that the American Medical Association take immediate steps toward completing the arrangements for this purpose; that they recommend that an attempt be made to procure the necessary funds (about forty-five thousand dollars) by subscriptions limited to one dollar, and by voluntary donations from such persons as may be interested in this work; that it be erected in Washington, and that the committee further recommend that an attempt be made to have the work completed in such time that the dedicatory ceremonies may be held at the meeting of the International Medical Congress in 1887.

It is to be hoped that, when the committee is ready to receive subscriptions, the profession will respond cheerfully and immediately. The sum asked from each student and practitioner of medicine is so small, and the cause is so great, that everyone should respond gladly, in the interest and for the honor of American medicine; for by such work the profession will do more honor to itself than to the illustrious dead. The report of the committee should be taken as a direct personal appeal to every physician and student of medicine, and to everyone interested in art, in the science of medicine and in commemorating the work of a great physician, a great statesman, a humanitarian, and a good man—for such was Benjamin Rush.

OPERATION IN RUPTURED EXTRA-UTERINE PREGNANCY.

MR. LAWSON TAIT has recently reported his seventh, eighth, and ninth cases of operation for ruptured tubal pregnancy. All of the operations were followed by recovery except the first. "Such a series, though not a large one, is sufficient to prove that these cases may be treated with perfect success under the improved and bolder proceedings adopted in abdominal surgery within the last six years. In fact, they are almost of themselves sufficient, when taken with the established fact that the great bulk of such cases have a fatal termination when left alone, to determine the propriety of immediate operation in all such cases. They also confirm the views which I have already expressed, that cases of extra-uterine pregnancy are all tubal in origin, arising from a ruptured tube about the tenth or twelfth week of pregnancy, at a point which is determined by the site of the placenta. This explains the extreme fatality of the rupture. As not a single instance of extra-uterine pregnancy at the time of rupture has been discovered other than of tubal origin, we are absolutely wanting in evidence that there is any other origin for this displacement."

Does it not seem that the time has passed when a ruptured extra-uterine pregnancy should be treated on the expectant plan? Nevertheless, cases are still reported in which the usual anodynes are administered, and the usual expectant plan followed, with the usual result—death. And the day has passed when the plea of uncertainty as to diagnosis may be extended; the symptoms are sufficiently grave to show that there is seri-

ous abdominal complication; and in these cases it is the duty of the surgeon to find out what it is—with the knife, if necessary.

AN OPERATION FOR DISPLACED SEMILUNAR CARTILAGE.

MR. THOMAS ANNANDALE describes, in the *British Medical Journal*, of April 18, an operation which he has recently performed for the reduction of a dislocated semilunar cartilage. Making an incision along the upper and inner border of the tibia, parallel with the anterior margin of the internal semilunar cartilage, and having secured the few bleeding vessels, he opened the joint. "It was then seen that this semilunar cartilage was completely separated from its anterior attachments, and was displaced backwards about half an inch. The anterior edge of the cartilage was then seized by a pair of artery catch forceps, and it was drawn forward into its natural position, and held there until three stitches of chromic catgut were passed through it and the fascia and periosteum covering the margin of the tibia. The forceps were then withdrawn, the cartilage remaining securely stitched in position." The wound was then closed with catgut sutures, and a splint and plaster-of-Paris bandage applied so as to keep the joint at rest. This operation was performed more than a year and a half ago, and the result thus far has been all that could be desired; it seems a very desirable operation for those cases which have resisted the other methods of treatment.

ASSOCIATION ITEMS.

REPORT OF THE COMMITTEE ON THE ERECTION OF A MONUMENT TO DR. BENJAMIN RUSH.[1]

Your committee, charged with the duty of reporting at this meeting of the Association upon the subject of the erection of a monument to Dr. Benjamin Rush, in the city of Washington, beg to submit the following as their report:

The national capital already ranks among the most beautiful cities of the world. The natural advantages of site and climate have been supplemented by a plan of construction that is absolutely unparalleled; its broad streets intersected diagonally by broader avenues, bordered by wide parkings and terraces, and long lines of shade trees; its open squares, triangles, circles, and reservations exceeding in aggregate area the built-up portion of the city and affording admirable locations for fountains, flower beds, and statuary, its magnificent public buildings, its great museums and libraries, the excellence of the municipal administration of the District government, the presence for so large a portion of the year of the representatives of the people in Congress, and the permanent residence of the executive departments make it especially attractive; and the various national organizations of a scientific character, which have been wandering all over the country, are gradually tending toward this as their natural centre. Here, under the ægis of the federal government, they will establish the repositories of their collected works, specimens, and trophies, for which they must have a fixed abiding place; here erect mementoes of the famous men who have lent lustre to them, gained revenue for themselves and brought honor to their country.

On the eve of the battle of Aboukir, Nelson said: "Before to-morrow, I shall have gained a peerage or Westminster Abbey." In the language of Senator Bayard, at the unveiling of the Dupont statue, "A peerage officers of the United States are forbidden to receive, nor have we as yet in our new land a venerable repository for the ashes and memories of our distinguished dead, but there are public buildings fit to receive the statues of those who have well served the republic in any calling, and no place so proper as this city, the seat and centre of the government of the United States."

It is especially appropriate that among the adornments of the national capital, there should be the imperishable memorials of those who have aided to establish the American nation and in themselves have made the name "American" honorable among men.

Much has already been done in this direction. Congress is gathering in the Memorial Hall of the Capitol the statues of the founders and men of mark of the republic, each state contributing two of its most noted patriots. The collection is still incomplete, but already includes the Winthrops, Samuel Adams, Hamilton, Livingston, Clinton, Roger Williams, Greene, Collamer, Fulton, Sherman, Trumbull, Baker, and William King. Of the presidents: Washington, Jefferson, Jackson, Lincoln, and Garfield have been commemorated by stone or metal effigies.

The military and naval heroes of the country have been honored in the persons of Scott, Thomas, McPherson, Rawlings, Greene, Farragut, and Dupont. The law has its representative in the recently erected monument to Chief Justice Marshall, and science has been recognized in the statue of Professor Henry in the grounds of the Smithsonian Institute, of which he was so long the distinguished director. Other monumental adornments of the city are the Emancipation statue in Lincoln Park; the naval monument at the foot of the Capitol; the statues of the world's great artists, among them the American Crawford, surrounding the Corcoran art gallery; and the statue of Martin Luther on the park of the Lutheran church,

[1] The report submitted to the Thirty-sixth Annual Meeting of the American Medical Association, held in New Orleans in April, 1885.

overlooking Thomas Circle. In addition, a liberal appropriation has just been made by Congress for the erection of a statue to Lafayette.

Painters, sculptors, generals, admirals, lawmakers, and presidents, the jurist, the scientist, and the divine have all been appropriately represented in marble and bronze. Why should not medicine be likewise honored? And, if so, who shall be chosen to represent at once the able physician and the patriot? Your committee are of the opinion that Benjamin Rush has eminently merited this distinction. A brief review of his life may make this evident to the Association.

Benjamin Rush was born on the 24th of December, 1745, on a small estate belonging to his father in the township of Byberry, twelve miles northeast of Philadelphia. His great-grandfather, Captain John Rush, was a native of England and had served with credit as captain of horse in the army of Cromwell, and had emigrated to Pennsylvania about the time of its first settlement by William Penn. He lost his father when six years of age, and the care of his education and that of a younger brother devolved upon his mother.

When nine years old, he was sent to a grammar school at Nottingham, Maryland, under the direction of his maternal uncle, the Rev. Dr. Findley, afterward president of the college of New Jersey at Princeton.

At fourteen he was sent to Princeton, under the charge of the Rev. Dr. Davies, and his early education had been so thorough that he received his A.B. in September, 1760, when not fifteen. He was first intended for the law, but Dr. Findley induced him to study medicine, which he commenced under the preceptorship of Dr. John Redman in Philadelphia, whose pupil he was six years, meantime attending a course by Dr. Shippen. When pursuing his medical studies he translated the Aphorisms of Hippocrates from the original Greek, with which he was familiar; and to his diligence as a student, then only seventeen years of age, we owe the only account we have of the epidemic of yellow fever which prevailed at Philadelphia in 1762, thus early evincing that faculty for original research which was probably in after life his greatest professional distinction.

After going through the preliminary grades in medicine, he went, in 1766, to Edinburgh, then the most noted school in Europe, and after two years obtained the degree of Doctor in Medicine, his inaugural thesis, which was commended for the elegance of its diction, being in Latin and entitled "*De coctione ciborum in ventriculo.*" He passed the winter of 1768 in London, and the following year in Paris, returning to his native country in 1769, when he was immediately associated with Shippen, Morgan, Bond, and Kuhn, as Professor of Chemistry in the Medical College of Philadelphia. In 1789 he succeeded Dr. Morgan in the Chair of Theory and Practice of Medicine, and in 1791, the college having merged into the University of Pennsylvania, he was elected Professor of the Institutes of Medicine and of Clinical Practice. In 1796, on the resignation of Dr. Kuhn, he received the additional Professorship of the Practice of Physic, which he held with his two previous appointments to the close of his life. It is estimated that he had given instruction to more than two thousand pupils during his professional career.

His repute as a teacher was not greater than his distinction as a practitioner, his ability having been eminently displayed during the yellow fever of 1793, which had appeared in 1762, and returned with unexampled malignity. When urged to leave the city, he said that he would not abandon the post which Providence had assigned him, that he thought it his duty to sacrifice not only his pleasure and repose, but his life, should it be necessary, for the safety of his patients. In 1786 he instituted the Philadelphia Dispensary—the first in the United States—and up to his death was one of the physicians of the Pennsylvania Hospital. To his fame as a practitioner and teacher of medicine, Dr. Rush has added the no less glorious distinction of having been an able writer. His printed works fill seven volumes, of which six are on medicine, and the other a collection of miscellaneous essays on philosophy, morals, and literature. Intensely American, his sympathies were earnestly enlisted on the side of the colonies. He early began writing in defence of their rights, and in July, 1776, he was chosen a representative to the General Congress, and, pursuant to a rule of the house, subscribed his name to the Declaration of Independence. "Indeed," says Dr. Benjamin Lee, in his bi-centennial sketch, "the report, which as chairman of a committee of the Provincial Conference of Pennsylvania, he made upon the question as to whether it was desirable for Congress to declare independence, a report which was adopted and sent to Congress immediately, might be called a rough draft of that memorable document itself, so completely does it foreshadow all its most important features." Shortly afterward he was commissioned surgeon-general of the army for the middle department, and in the summer of 1777, physician-general of the Military Hospital. In 1780, he was appointed a member of the convention in Pennsylvania for the adoption of the federal constitution, which he pronounced a "masterpiece of human wisdom."

After the establishment of the federal government, he withdrew altogether from public affairs, and devoted the residue of his time to his social duties and to the exercise of his profession. The only office he accepted as a reward for his many services, which he held fourteen years, was that of president of the mint.

He was president of the American Society for the Abolition of Slavery, and for some time president of the Philadelphia Medical Society. He was vice-president of the Philadelphia Bible

Society, and one of the vice-presidents of the American Philosophical Society, and member of many similar institutions in this country and Europe. He was one of the principal agents in founding Dickinson College, at Carlisle, Pennsylvania, and an earnest advocate of the establishment of public schools. He strenuously urged the abolition of public punishment, and became a member of the convention for forming a state constitution, in order the more effectually to use his influence in pressing these great reforms. Of the Society for Promoting Political Inquiries, he was one of the most active members. He died on the 19th of April, 1813, in the sixty-eighth year of his age, a victim of the prevailing epidemic of typhus.

In Sanderson's "Lives of the Signers of the Declaration of Independence," published at Philadelphia, in 1823, from which these facts have been largely drawn, it is stated: "The loss of no individual of this country, excepting Washington and Franklin, has been lamented with more universal and pathetic demonstrations of sorrow," and again: "As a physician, he has left upon the age in which he lived the impress of his character and genius; in the minds of his countrymen he holds an undisputed preëminence, and amongst foreign nations it is acknowledged that the fame of Sydenham has been rivalled by the glory of Rush." Dr. Lee, in the sketch before quoted, says of the physicians of the revolution: "They were men at all points. Their mental training had been such that they could cope with the great political questions of the day with as much ease as with the problems daily presenting in their own science and art. It need be a matter of no surprise, therefore, that we find them as members of the Committee of Public Safety, members of Provincial Congresses, members of the Continental Congress, signers of the immortal Declaration, members of state legislatures and of constitutional conventions, governors of states, secretaries of state, supreme justices, major-generals in the army—in fact, in every possible position where patriotism and integrity were required to be wedded to courage, sagacity, and profound learning—as well as occupying these more strictly professional posts of honor and responsibility, surgeon-general, physician-in-chief, and director-general. Among them all, as Dr. Toner well observes in his address on 'The Medical Men of the Revolution,' Dr. Benjamin Rush stands preëminent. His reputation as a teacher and patriot became national, extending far beyond colonial limits. Indeed, his fame, like that of Warren, of Massachusetts, and Ramsay, of South Carolina, belongs to America."

In Delaplaine's "Repository of the Lives of Distinguished American Characters," published at Philadelphia in 1815, it is said: "Considered in relation to the entire composition of his character—as a practitioner, a teacher, a philosopher, and a writer, Dr. Rush must be acknowledged to have been the most distinguished physician that America has produced. In no quarter of the globe has it fallen to the lot of many individuals to occupy so extensive a sphere and to comply with duties so numerous and diversified."

Zimmerman declared: "La conduite a merité que non seulement la ville de Philadelphie, mais que l'humanité entière lui élève une statue." Let this Association, then, at once assume the task of erecting this statue in the name of the profession he so highly honored; and your committee do recommend:

First, as to the expense of such an undertaking: As accurately as can be ascertained, some of the prominent statues in Washington have cost the following sums:

Equestrian statue of Washington, by Clark Mills, $50,000.

Equestrian statue of Jackson, by Clark Mills, $50,000.

Equestrian statue of McPherson, by L. T. Robisso, $48,500 (the pedestal alone costing $25,000).

The naval monument—four female figures—$40.000.

Equestrian statue of Thomas, by J. Q. A. Ward, $40,000.

Equestrian statue of Greene, by H. K. Brown, $40,000.

Equestrian statue of Scott, by H. K. Brown, $20,000.

Statue of Farragut, by V. R. Hoxie, $27,000 (of which $7,000 were for rustic base).

Emancipation statue of Lincoln, by Thos. Ball, $17,000.

Statue of Rawlins, by J. Bailly, $12,500.

Statue of Marshall, by A. A. Story, $40,000.

Statue of Professor Henry, by W. W. Story, $15,000.

Statue of Dupont, by Launt Thompson, $15,000.

Congress has recently appropriated $50,000 for a statue of Lafayette, and $30,000 for the pedestal for a statue of Garfield. The Society of the Army of the Cumberland has contracted to pay J. Q. A. Ward $30,000 for the statue itself, of which the design is elaborate, embracing subordinate figures as well as the central one.

It may, therefore, be approximately estimated that $40,000 will be sufficient; and the practical question presents itself, can the ninety thousand physicians in the United States raise $40,000 for such a purpose? If every member of the profession were to contribute only fifty cents the question would be solved, but as such unanimity is hardly to be expected, your committee have preferred to estimate that an equal number may decline as assent to their proposition, in which event from a subscription rate of only one dollar apiece the sum of forty-five thousand dollars will still accrue, and be ample to erect a monument comparable in every respect to the splendid equestrian statues of General Thomas and General Scott or the seated figure of Chief Justice Marshall.

Your committee accordingly offer the following resolutions:

Resolved, That this Association undertake to erect a statue to Dr. Benjamin Rush in the city of Washington by the members of the profession of medicine in the United States;

Resolved, That the necessary funds for this purpose shall be obtained by subscriptions limited to one dollar from each physician and student of medicine in the United States; and by the voluntary donations of such additional sums as may be tendered by persons interested in the work;

Resolved, That a standing committee, to be styled the Rush Monument Committee, shall be appointed by the president, consisting of a chairman and a member from each state and territory, the District of Columbia, the medical corps of the U. S. army and U. S. navy, and the U. S. marine hospital service, of which the members resident in or near Washington shall constitute with the chairman an executive committee;

Resolved, That the necessary preliminaries of printing, advertising, postage, obtaining designs and awarding contracts shall be determined by the general committee, which shall appoint a secretary and a treasurer, and report at the annual meetings of the Association;

Resolved, That an effort be made to determine a site for the monument, so that the ceremonies of its dedication may be made coincident with the meeting of the International Medical Congress at Washington in 1887.

All which is respectfully submitted on behalf of the committee.

ALBERT L. GIHON, M.D., U. S. Navy, Washington, D. C., Chairman.
HENRY H. SMITH, M.D., Philadelphia.
R. A. KINLOCH, M.D., Charleston, S. C.
S. C. GORDON, M.D., Portland, Me.
GEORGE H. ROHÉ, M.D., Baltimore, Md.
JOHN W. MURPHY, M.D., St. Paul, Minn.
MORRIS H. HENRY, M.D., New York.

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM AN OCCASIONAL CORRESPONDENT.)

The Paris Congress of French-speaking Surgeons—Tarsectomy of the Posterior Cuneiform Bone for Talipes Varus—Osteotomy and Osteoclasis for Knock-knee—A New Drainage Tube—Microbes and Diathesis—Erysipelas—Cold Abscesses—Ossifluent Abscesses—Antiseptic Dressings in Military Surgery.

Last July M. Demons, of Bordeaux, wrote to the Société de Chirurgie to propose a Congress of French Surgeons. A commission was appointed to consider the proposition; Dr. Pozzi read to the Society the report drawn up by the commission, which advocated that an "Annual Congress of French Surgeons," or a "French Congress of Surgery," or a "Congress of Surgeons Speaking the French Language," should be held. The Société de Chirurgie accepted the proposition, which has borne fruit. The Paris Congress of French Surgeons was inaugurated on the sixth of March at the École de Médecine, M. Charles Trélat, professor at the Paris Faculté de Médecine, was elected President; M. Ollier, of Lyons, Vice-President; M. Pozzi, General Secretary; and MM. Verneuil, Tilanus, E. Bœckel, of Strasburg, Gross, of Nancy, A. Guérin, Rochard, Baron Larrey, and Rœberlé, were elected Honorary Presidents. M. Trélat opened the meeting by an address in which he welcomed the members and dwelt on the importance of the Congress. It numbers two hundred and fifty members, among whom, besides the Paris surgeons, are their brethren from the provinces, from Alsace and Lorraine, Belgium, Switzerland, and from Italy and other foreign countries.

All who consider the question must agree that some stimulus is needed in the surgical world to do really good scientific work, and that it should not be content with making lengthy communications on such threadbare subjects as the treatment and prevention of erysipelas. This was formerly a crucial question, but has long since been solved both in England and America. Should the Annual Congress breathe fresh energy into the students and teachers of surgery, Dr. Demons will have done good to his country. The next Congress will be held in October, 1886. M. Ollier, of Lyons, is elected President, and M. Pozzi, General Secretary. Professor Gross, of Nancy, read the first paper, on "Tarsectomy of the Posterior Cuneiform Bone in Talipes Varus." In this species of deformity the author recommends removing the astragalus and performing resection of the anterior extremity of the os calcis. When the antiseptic method is adopted he does not consider the operation a dangerous one; the foot recovers its normal shape, and nearly all the movements can be executed; but this faculty and that of walking depend on the condition of the muscles prior to the operation. Professor Gross believes, notwithstanding the success of the operation, that the deformity may reappear.

M. Demons, of Bordeaux, who may be considered as the originator of the Congress, read a paper on "Osteotomy and Osteoclasis in Knock-knee." Notwithstanding all the improvements made in the instruments for strengthening the limbs Dr. Demons condemns this method of treatment; it injures the articulations and produces general disturbance, and the harm done can neither be localized nor estimated; he considers osteotomy preferable to mechanical treatment, and osteoclasis performed with M. Robin's instrument preferable to osteotomy.

M. Houzel, of Boulogne, described a drainage tube especially fitted for wounds which require to be withdrawn from contact with the air. In the portion of the tube placed in the wound there are the usual lateral apertures; the other extremity reaches beyond and below the wound, and is immersed in a receptacle containing carbolic-

acid solution. The tube not only allows the pus to run off but it also acts as a siphon and facilitates the evacuation of the pus from the wound. When it is carefully placed the wound is covered, and an antiseptic dressing is made in order to exclude the air.

M. Abadie, the well known oculist, read a paper on "Microbes and Diathesis." The author believes that diathesis has only a secondary influence, and that microbes are the important factors in the local complications attending wounds. He recommended that surgeons not only disinfect wounds, but the atmosphere also; an important precaution in the treatment of wounds, and not sufficiently estimated.

M. Cauchois chose for the subject of his communication what may be considered as the obsolete question of "Erysipelas before and after the Adoption of Antiseptic Method." His field of study was the Hôtel Dieu, at Rouen, and there, as elsewhere, the investigation proved the efficacy of the antiseptic treatment. M. Cauchois never isolated his patients, but depended on antiseptic measures to prevent propagation.

Communications on the treatment of cold abscesses were read by three different authors. M. Cazin, of Boulogne, has treated them by extirpation since 1874; he dissects them out. The cicatrix is scarcely apparent, and is most often linear. The cure is generally early, if the antiseptic method be adopted. M. Bouilly has studied sixty-five cases of cold abscesses. He agrees with M. Cazen and M. Sannelongue, that cold abscesses are tuberculous in character; and he believes that by destroying this tuberculous area certain cure may be obtained. But if the lungs or viscera are tuberculous success is doubtful.

M. Pozzi presented a patient to the meeting as evidence of his successful method in treating cold abscesses. The patient was a woman thirty-eight years of age; when a child she was scrofulous. Her lungs were slightly affected; two years ago a large abscess formed on her left thigh, and this was quickly followed by another on her elbow, and one on the thorax. The general condition was very bad. M. Pozzi freely opened the abscesses and removed the fungous growth; he cauterized the attainable surface with the thermo-cautery, and the unattainable with the zinc chloride. Antiseptic and iodoform dressings were applied; partial cicatrization followed quickly, but part of the wound continued unhealed. Three months afterward incisions were made wherever there was pus. Scraping was again resorted to, and cauterization by the thermo-cautery and zinc chloride. M. Pozzi described another case of a patient, sixty-two years of age, who was also cured of several cold abscesses by the same treatment. M. J. Bœckel, the eminent surgeon of Strasburg, in a paper on "Ossifluent Abscesses," also known as abscesses by congestion, insists on the necessity of making many free incisions, disinfecting the area attacked, removing the sac, and inserting large drainage tubes, which are replaced within a few days by short tubes; abdominal and lumbar wounds ought to be left widely gaping. M. Bœckel has treated seven abscesses by this method, all of which were successful, and five of which may be considered as definitely cured.

M. Verneuil formerly treated cold abscesses by extirpation, but has forsaken that treatment for injections into the sac of ether and iodoform solutions.

A number of papers were read on "Antiseptic Dressings in Military Surgery." M. Guérin quoted M. Manoury's evidence that his closed wool dressing renders removal of the wounded painless, even in the most uncomfortable vehicles. M. Manoury was in the Russo-Turkish war.

M. Bousquet recommends as antiseptic agents carbolic acid, zinc chloride, and corrosive sublimate. Lint and compresses should be replaced by cotton-wool, jute, and hemp. M. Audel recommends the ordinary antiseptic agent with occlusion of the wound, as the least that can be done in time of war, but yet sufficient. He recommends the Lister dressing when possible. M. Bedoin strives to combine the Guérin and Lister dressings, and recommends the following formula: A sheet of paper previously purified in a stove, then immersed in mercuric bichloride, carbolic or boric acid. Gutta percha or a strip of India rubber completes the dressing. M. Delorme considers the bundles of dressing carried by each soldier more sentimental than practical. He especially recommends iodoform dressing; second in order of merit he places carbolic acid, and corrosive sublimate third. v.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Sir William Jenner's Illness — Headaches among School Children — Suburban Cemeteries — Sporadic Cretinism — Lectures at the Royal Institution — Mr. Lennox Browne's New Book.

Sir William Jenner has been seriously ill from an attack of bronchitis which is attended by some alarming complications. Dr. Russell Reynolds and Sir William Gull have been in frequent attendance on Sir William, who is now going on as favorably as could be expected, but his condition excites much anxiety.

Dr. Crichton Browne states that headaches are increasing among children in this country attending schools where methodical and effective ventilation are carried out, and that such headaches can be traced only to the incidence of intellectual work upon brains of low educability, or badly nourished, and so easily fatigued and exhausted. Headaches in children used to be rare, and were regarded as always importing organic disease of the brain, but they are now of daily occurrence.

At a meeting of the Parkes Museum Sir Spencer Wells, F.R.C.S., said that Dr. Parkes, in whose memory the museum was founded, had labored to make known that branch of knowledge—hygiene or sanitary science—which, in his own words, aimed at rendering "growth more perfect, decay less rapid, life more vigorous and death more remote." Parkes had made known many of the evils which were traceable to the burial of the dead, especially when the burial places were near large cities, and he considered contamination of air and pollution of water to an extent dangerous to the living as almost unavoidable under the present system. He contended that even under proper regulations and management suburban cemeteries were injurious to the public health, and that in many of them the soil, the position with respect to neighboring houses and the sources of water supply, and the want of sufficient space were so contrary to the known sanitary requirements that they ought to be closed. The only considerations that ought to weigh in the disposal of the dead were sanitary ones, and the burial in the earth was one of the most unsanitary methods which could be adopted. In all towns a crematorium should be erected for the use of any whose relations preferred burning to burial. He congratulated the city of London on the probability of being the first to set an example in this respect to the whole kingdom, and showed that beautiful public grounds might replace our present cemeteries, if monumental urns containing the ashes of the deceased were preserved instead of the gravestones which covered their putrefying corpses. He replied to various religious and sentimental objections to cremation. and read a letter from Lord Bramwell confirming the decision of more than one judge, that it was perfectly legal.

A case of sporadic cretinism the cause of which, whatever it might be, must have been transient and accidental rather than due to locality inhabited, or the parents' health, since all the other eight children born of the marriage were perfectly healthy, was exhibited at a meeting of the Clinical Society by Dr. Sidney Phillips. The patient was a child, aged 10¼ years. There was no history of rickets, syphilis, or tubercle in the family. Two months previous to the birth of the child, the mother received a severe fright from a fall of a child into a well. Labor was natural and no forceps were used. There was nothing unnatural exhibited by the child until it was nine months old. At the present time the child weighs 26 or 27 lbs., and is 2 ft. 7¾ in. high. There was seen to be large masses of fatty tissue above either clavicle, the hair scanty, the voice croaking, the head very large, the anterior fontanelle unclosed, and the thyroid gland was absent. The child, though able to walk, was unsteady on the legs, and there was marked lordosis. She was intellectually childish, but good-tempered, and her mental condition was mainly remarkable for the extreme torpidity and hebetude. Besides these symptoms, the limbs and face were œdematous, but firm; they pitted on firm pressure, but the pitting disappeared more quickly than in cases of dropsy. The feet were short and square, the limbs very much enlarged, the hands spade-like, and the tongue was also enlarged. Besides other signs of cretinism, Dr. Phillips pointed out there was in the subject a condition present much allied to, if not identical with, the disease known as myxœdema. That the mental condition was somewhat different from that in myxœdematous adults, was accounted for by the early age at which it came on, before the mind had had time to become developed. It was also pointed out that ten cases of a similar nature had now been recorded, two of them by Mr. Curling, four by the late Dr. Hilton Fagge, and one each by Dr. Fletcher Beach, Dr. Langdon Down, and Dr. Routh. On examining the records of these, it appeared that six of the ten cases presented signs, more or less marked, of an œdematous state; and Dr. Phillips pointed out that it was not, therefore, an exceptional occurrence in association with myxœdema, but must be looked upon as part and parcel of the disease. Foderé's opinion, that cretinous infants mostly became œdematous, bore this out. Experimental removal of the thyroid had been shown by Kocher to produce cretinism in human beings. Mr. Horsley had produced myxœdema in monkeys by ablation of the gland; it was therefore to be expected that myxœdema would occur with other cretin symptoms, where the thyroid gland was deficient. There was no evidence as to what caused this deficiency of thyroid gland in the present case; but this was the third out of ten cases in which there was a history of fright during pregnancy.

The following arrangements for lectures at the Royal Institution of Great Britain have been announced: Professor Arthur Gamgee, M.D., F.R.S., eight lectures on Digestion and Nutrition; Professor C. Meymott Tidy, M.B., F.C.S., three lectures on Poisons in Relation to their Chemical Constitution and to Vital Functions; Professor William Odling lectures on Organic Septics and Antiseptics.

Mr. Lennox Browne has published a new work on "Voice Use and Stimulants." Despite common practice Mr. Lennox Browne holds that alcoholic stimulants have a most injurious effect upon the larynx and pharynx. G. O. M.

DOMESTIC CORRESPONDENCE.

A CASE OF ACUTE LEUCOCYTHÆMIA.

EDITOR JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

Dear Sir,—On the 18th of November, 1884, Ferdinand Schucknecht, a German aged 20 years, consulted me for a swelling of his neck. He was a heavy, hearty-looking young man of robust ap-

pearance, apparently in the enjoyment of excellent health.

On examination I found a prominent enlargement of the submaxillary and cervical glands of both sides about equally, meeting, though less prominent, underneath the chin. The growth was painless, hard, and not tender to pressure. There were no enlargements of other glands noticeable. The appetite was good; no feeling of sickness whatever. The glandular swelling remained *in statu quo* for as many as ten days, when there was some swelling of the inguinal glands also. Soon the mesenteric glands became enlarged and increased in size rapidly, distending the abdomen and crowding up the diaphragm, interfering seriously with the patient's breathing when in the recumbent posture. The spleen also partook of the general enlargement quite extensively. There was repeated copious hæmorrhage from the nose, which required to be kept in check by plugging the nares. The patient became pallid, anæmic, and sank rapidly, dying January 12, 1885.

An examination of the patient's blood three days before death, by Dr. Cutler, showed the proportion of white to red corpuscles greatly increased—about one to thirty or forty of red.

J. B. STAIR, M.D.

Spring Green, Wis., May 10, 1885.

DISCLAIMER.

EDITOR JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

Dear Sir,—Lest any misconception might arise, I would like to say that the photograph sent and figured on page 396 of the JOURNAL was from a pathological specimen presented before the Eau Claire County Medical Association by Dr. Harold Groff, and reported by me as Secretary of the Association.

Yours Respectfully,

CHAS. E. HOGEBOOM.

Eau Claire, Wis., May 15, 1885.

BOOK REVIEWS.

A TREATISE ON ABDOMINAL PALPITATION, AS APPLIED TO OBSTETRICS, AND VERSION BY EXTERNAL MANIPULATIONS. By A. PINARD, Associate Professor in the Faculty of Medicine of Paris, former Chef of the Obstetrical Clinic, etc. With 29 woodcuts inserted in the text. Paris, 1878. Translated by L. E. Neale, M.D., Chef of the Obstetrical Clinic and Demonstrator of Obstetrics in the University of Maryland. 8vo, pp. 101. New York: J. H. Vail & Co., 1885.

Important as is the subject of abdominal palpitation in the diagnosis of pregnancy, and of positions and presentations, it is one of which but very little is known or taught in this country. Pinard's little work on the subject has been the authority in France since its first appearance, and it is with pleasure that we notice this translation by one so well qualified to make a clear translation as Dr. Neale. The cuts are well made and are faithful representations of those in the original edition. We find it necessary to quarrel with both translator and publisher, however, because the book contains neither table of contents nor index. The former may be omitted; the latter may not, if a book is supposed to make a respectable appearance. The utility of an index is so apparent that it is a source of astonishment that a publisher will sometimes allow any book to go out from his house without one; and in this day, when even some of the larger newspapers have a table of contents to each number, it seems that the omission of so important a part of a book as the index is absolutely inexcusable on any ground—even of laziness.

THE STUDENTS' MANUAL OF HISTOLOGY. FOR THE USE OF STUDENTS, PRACTITIONERS AND MICROSCOPISTS. THIRD EDITION. ENTIRELY REWRITTEN; GREATLY ENLARGED; AND NEWLY ILLUSTRATED. By CHARLES H. STOWELL, M.D., F.R.M.S., Professor of Histology and Microscopy, and in charge of the Histological Laboratory of the University of Michigan. Illustrated by 178 engravings. 8vo, pp. 368. Ann Arbor, Mich. Charles H. Stowell, Publisher. 1884.

That there is room for this work on Histology is shown by the fact that two editions have been exhausted since March, 1881. As the book has been before the public so favorably for the past four years it is scarcely necessary to enter into an extended notice of it; it is quite sufficient to say that the author has not allowed anything new, which may be of the least value to the student of histology, to escape his notice, nor has he failed to record it in his book. His style is perfectly clear, and it is almost sufficient to read its pages in order to fall thoroughly in love with the subject. Of the many illustrations there are some which would be greatly improved by better press work, and the paper might be improved upon; but considering the excellence of the book in its more important particulars, these are very minor faults. The work is completed by an excellent index, and by blank pages for laboratory notes.

OFFICIAL REGISTER OF PHYSICIANS AND MIDWIVES NOW IN PRACTICE, TO WHOM CERTIFICATES HAVE BEEN ISSUED BY THE STATE BOARD OF HEALTH OF ILLINOIS, 1877–1884. Chicago: W. T. Keener, 1884.

On account of the limited edition of this Official Register authorized to be printed, the State Board of Health of Illinois has arranged with Mr. Keener, of Chicago, to publish an edition to supply the demand from without the state. The volume contains: The Illinois Practice Act; The State Board of Health Act; Con-

cerning Practitioners and the Mode of Procedure under the Medical Practice Act; Schedule of Minimum Requirements; Official Register of Physicians and Midwives; List of Revoked Certificates; and many other useful data concerning medical practice in Illinois.

MISCELLANEOUS.

SANITARY CONVENTION AT YPSILANTI, MICHIGAN.—Arrangements have been made by a local committee of citizens of Ypsilanti, acting with a committee of the State Board of Health, to hold a Sanitary Convention in Ypsilanti, Michigan, on Tuesday and Wednesday, June 30 and July 1, 1885.

Sessions.—There will be sessions the first day at 2:00 P.M. and 7:30 P.M.; on the second day at 9 A.M., 2 P.M., and 7:30 P.M., local time. At each session of the Convention there will be addresses or papers on subjects of general interest pertaining to public health. The admission to all sessions of this Convention will be free, and the ladies are cordially invited. The invitation is especially extended to health officers to be present and take part in the discussions. The objects of the Convention are the presentation of facts, the comparison of views, and the discussion of methods relating to the prevention of sickness and deaths, and the improvement of the conditions of living.

Among the subjects which it is expected will be presented and discussed are the following:

1. The present and future water supply of Ypsilanti; its relations to health and to sickness from certain diseases.
2. Disposal of slops and garbage.
3. Drainage and sewerage of Ypsilanti.
4. Causes of malaria in Ypsilanti.
5.
6. Prevention of communicable diseases.
7. Limitations and duties of local boards of health.
8. Sanitary condition and needs of school buildings and grounds.
9. Practical details of management of earth closets.
10. Influence of sewerage and drainage upon the death rate in cities.
11. Moral effects of sanitation.

The papers are expected to be original contributions, which when read are to be considered the property of the Convention, and to be left with the Secretary. Programmes will be issued before the Convention.

A. F. KINNE, M.D., *Secretary*,
Ypsilanti, Michigan.

BRAISE.—MM. GUÉRIN-ROZE and DUGUET, at a meeting of the Société Médicale des Hôpitaux, described three cases of lead poisoning resulting from handling chemical *braise*. *Braise* is a special kind of charred wood sold only by bakers; it is nothing else than the burned wood remaining in the furnaces after the fire is extinguished. The women attacked by lead poisoning dried and packed braise which had been steeped in lead nitrate. All the workers were perfectly healthy before working in a factory of chemical braise, and most of them continued so until the workshop, which was a large, airy room on the third floor, was removed to a small, ill-ventilated room underground. People who eat meat grilled over fires of braise thus prepared are liable to lead poisoning; also tailors who use this braise for their hollow irons. M. Labbé has observed lead poisoning produced by eating bread which had been baked over wood painted with lead pigments.

CHOLERA PRECAUTIONS IN ENGLAND.— The English Local Government Board is at present hard at work seeing that precautions are taken to prevent the spread of cholera, should it make its appearance. Dr. De Chaumont has been visiting Poplar on behalf of the government; his desire is that all patients should be moved into hospitals, and that no patient should be moved more than a mile.

DR. JOHN J. SPEED, the well known physician of Louisville, died at his home in that city on May 6, in the sixty-ninth year of his age.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 9, 1885, TO MAY 15, 1885.

A board of medical officers to consist of Lieut.-Col. A. K. Smith, Surgeon; Major J. C. G. Happersett, Surgeon; Capt. Jas. P. Kimball, Assistant Surgeon; appointed to assemble at U. S. Mil. Academy, West Point, N.Y., on June 1, 1885, to examine into the physical qualifications of the members of the graduating class, and the candidates for admission to the academy. (S. O. 106, A. G. O., May 9, 1885.)

Major Jas. C. McKee, Surgeon, sick leave of absence still further extended four months, on surgeon's certificate of disability. (S. O. 105, A. G. O., May 8, 1885.)

Major Justus M. Brown, Surgeon, from Department East to Department Platte.

Captain Calvin De Witt, Assistant Surgeon, ordered to Department East. (S. O. 105, A. G. O., May 8, 1885.)

Captain Joseph K. Corson, Assistant Surgeon, leave of absence extended ten days. (S. O. 109, A. G. O., May 13, 1885.)

Captain A. A. De Loffre, Assistant Surgeon, assigned to duty at Fort Sisseton, D. T. (S. O. 46, Department Dakota, May 4, 1885.)

Captain John J. Kane, Assistant Surgeon, leave of absence for seven days extended one month. (S. O. 109, A. G. O., May 13, 1885.)

First Lieut. E. C. Carter, Assistant Surgeon, leave of absence extended one month. (S. O. 106, A. G. O., May 9, 1885.)

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE, FOR THE WEEK ENDED MAY 16, 1885.

Fessenden, C. S. D., Surgeon, granted leave of absence for thirty days, May 12, 1885.

Goldsborough, C. B., Passed Assistant Surgeon, to proceed to Moss Point, Miss., for special duty, May 16, 1884.